WITH GA

MacWEEK

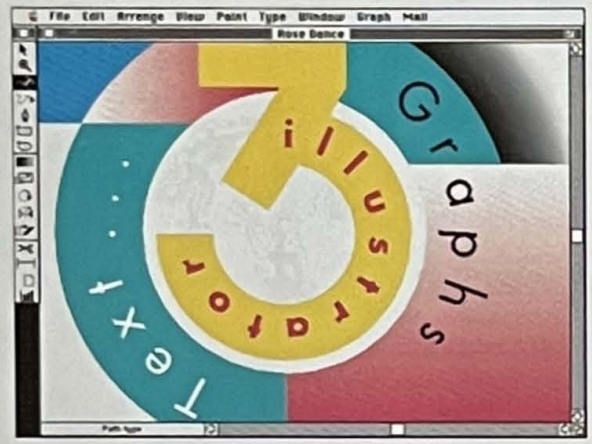
31 July 1990 Vol. 4 No. 26 WORKSTATION NEWS

How to buy Mac laser fonts

See ProductWatch, Page 77

Setting up an in-house repair shop

See The Organizational Mac, Page 48



Adobe Illustrator 3.0, due in September, offers complete text-handling features, allowing users to enter and edit text directly on-screen, instead of through a dialog box. Text can be created on a curve, moved along the path and automatically wrapped around an object.

Adobe Illustrator 3.0 gets handle on text and charts

By Connie Guglielmo

Mountain View, Calif. — Adobe Systems Inc. last week announced a new version of Illustrator that gives users of the PostScript-based drawing program the text-handling features they have been asking for since 1988.

Version 3.0, to ship in September for $595, contains a new graphing and charting tool; a streamlined interface; and an updated version of Adobe Separator, a four-color separation utility. The program also comes with Adobe Type Manager 2.0 (see related story, Page 9).

"We look at the program now as the only product you would need for single-page design," said Paul Towner, product marketing manager.

▸ **Text.** Seasoned Illustrator users should be happy to find that the text dialog box is a thing of the past, Towner said. The new version lets users type, edit and manipulate text directly on-screen.

The 256-character limit for text blocks has been removed, allowing users to enter and mix an unlimited number of characters, styles, sizes and colors within any block.

See Illustrator, Page 9

IIci groomed for mainstream

IIcx is odd Mac out in fall CPU lineup

By Pamela Pfiffner

Cupertino, Calif. — Moving to consolidate its product line before new models are released in October, Apple early this month cut dealer prices on the Macintosh IIci.

The reductions bring the IIci's price more in line with that of the IIcx, Apple's most popular modular Mac. Sources said the introduction of the low-cost color Macs will lead Apple to discontinue the IIcx.

Sales of the IIcx in the United States have outpaced those of the IIci by 3-to-1, sources said. At several dealerships, the ratio of IIcx machines to IIci machines sold is as high as 15-to-1.

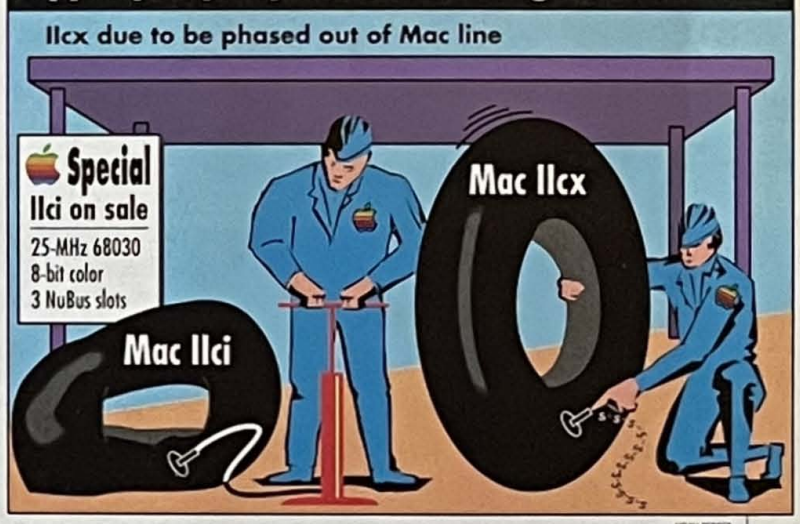
Despite its built-in video capabilities and faster processor, IIci sales have been sluggish, observers said, because of its early compatibility woes with some applications and peripherals. Those problems have since been fixed.

Nonetheless, many dealers said they have been reluctant to pro-

See Mac IIci, Page 10

Apple pumps up sales and image of IIci

IIcx due to be phased out of Mac line



KEVIN BERGER

New tools make backup transparent

By Henry Norr

Berkeley, Calif. — Macintosh managers who have long wrestled with the difficulty of maintaining backups of their servers and workstations may get some relief from several breakthrough products introduced this month.

The new offerings, which open backup options never previously available to Mac users and network administrators, are Retrospect Remote, a network version of Dantz Development Corp.'s

See Backup, Page 10

Group encounters on Mac screen

By Henry Norr

Arlington, Va. — A new "simultaneous collaborative computing" program that lets up to 16 users work together on the same text or graphics via modem or LAN will make its appearance at next week's Macworld Expo in Boston.

Aspects 1.0, developed by Group Technologies Inc., provides "real-time document conferencing" by displaying documents created or imported by any user on the screens of other participants in the session. In the interest of speed the

See Aspects, Page 9

Outbound technology Apple-bound

By Raines Cohen

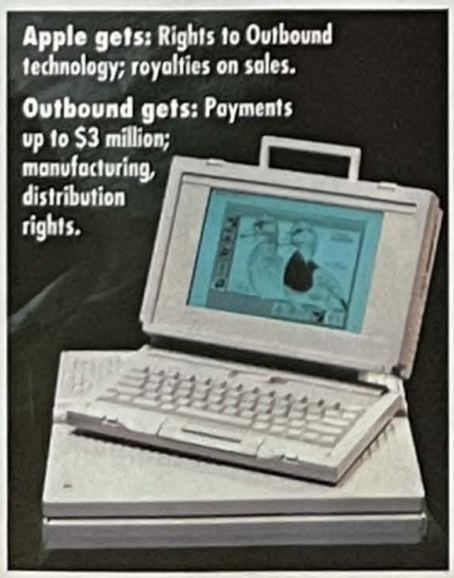
Boulder, Colo. — Outbound Systems Inc. and Apple are on the verge of signing a deal giving Apple the rights to the key technology underlying the Outbound Laptop System, according to sources.

With sales of the Macintosh Portable lagging, Apple is looking to gain an increased share in the portable computer market, which is growing faster than the desktop computer market. InfoCorp, a market research firm in San Jose, Calif., estimates that 1.2 million portables will ship in 1990, a 26 percent increase over 1989.

Despite the growth in total portable sales, the Macintosh Portable has sold far below Apple expectations, sources said. A year ago Apple predicted sales of 90,000 units in fiscal 1990. Actual sales for fiscal 1990, ending Sept. 30, are now expected to total no more than 30,000.

Many customers said they want a true laptop, not the luggable unit

See Outbound, Page 10


Apple gets: Rights to Outbound technology; royalties on sales.
Outbound gets: Payments up to $3 million; manufacturing, distribution rights.

LATE NEWS

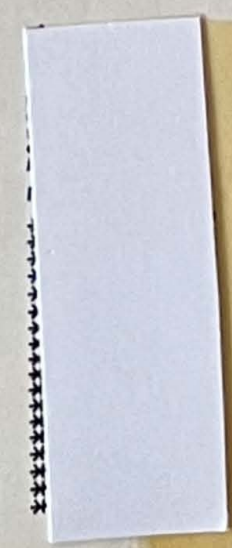
Problem-plagued AppleFax gets the ax

Cupertino, Calif. — As of July 31, Apple will end sales of its AppleFax fax/data modem. Dealers will continue to sell their inventories of the $699 peripheral. From its early days AppleFax was beset by bugs and incompatibilities. Even today, the Apple software shipped with it does not work in the background. Apple said it will honor extant warranties and should be able to handle component-level repairs in the "foreseeable future." □

Sun also rises over retail channels

San Jose, Calif. — Sun Microsystems Inc. last week announced and began shipping SPARCstation IPC, its first color workstation at less than $10,000. A diskless model is $8,995; a 207-Mbyte hard drive model is $9,995. The system will be sold in national dealerships Intelligent Electronics, MicroAge Inc. and NYNEX Business Information Systems Co. □

NEWSPAPER SECOND CLASS



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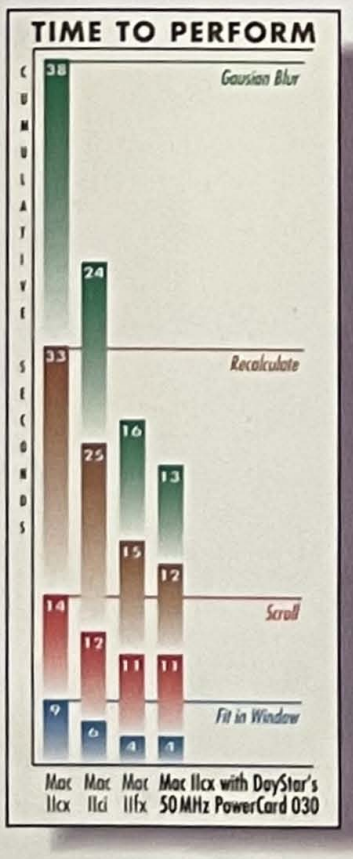

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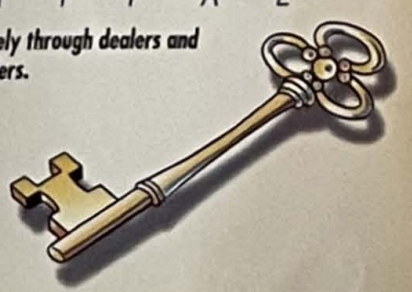

5556 Atlanta Highway, Flowery Branch, GA 30542, (404) 967-2077, Fax: (404) 967-3018 • This ad with prepress created on a Macintosh II and IIcx with DayStar's 50MHz PowerCard 030.

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FaxAction: check box 1075

Orange386 will bring OS/2, Windows to Mac screens

By Henry Norr

Anaheim, Calif. — OS/2, Windows 3.0, VGA graphics and AT expansion cards in a Mac II? If that's what you want, it soon will be possible, thanks to an 80386SX-based coprocessor card that Orange Micro Inc. will introduce at next week's Macworld Expo.

The Orange386, equipped with a 16-MHz version of the Intel chip and priced at $2,295, is scheduled to ship in September, although OS/2 drivers will not be ready until later in the fall. According to Orange Micro, the card is expected to deliver up to 10 times the performance of software emulators.

Another new-generation coprocessor due in September, the Orange286, will have a 12-MHz 80286 and a price tag of $1,859.

Targeted at Mac users who also need to run specialized MS-DOS or OS/2 applications and network managers supporting multiple platforms, the new Orange cards will bolster the Mac's position as a virtually universal platform. Together with Apple's recently released A/UX 2.0 and X Window system software, the Orange386 means that users can run programs under all of the principal microcomputer and workstation operating systems from a single desktop machine.

The '286 and '386 cards take only one NuBus slot. Both add two slots for IBM PC AT expansion cards, which are mounted parallel to the Mac logic board and extend over the Mac II's drive area. Half-size AT cards can be used in any Mac II model and three-quarter-size cards in six-slot machines.

According to Orange Micro, adapters for EGA and VGA graphics, Ethernet and token-ring networking, and most other standard functions are available in those formats.

Both cards will ship with 1 Mbyte of RAM and can be expanded to 4 or 16 Mbytes. Both have a 78-pin connector for an optional $199 peripherals cable that makes it possible to connect the card to PC floppy drives; IDE hard drives, a new PC hard disk interface; VGA monitors; and serial and parallel devices.

The Orange cards let users run PC applications in CGA color or monochrome in a window. EGA or VGA color will not be available on the Mac desktop, but the Orange peripherals kit will include a switch box that allows users to toggle between Mac and PC modes on multisynch monitors.

Orange Micro Inc. is located at 1400 N. Lakeview Ave., Anaheim, Calif. 92807; (714) 779-2772. □

Pastel PIM: 'Just toss more info in'

By Carolyn Said

New York — Pastel Development Corp. has a new electronic solution for people whose desks are flooded with paper: Pastel Manager, a personal information manager (PIM) for the Mac, slated to ship in November for $295.

Although PIMs have become common in the IBM PC market, there are relatively few for the Mac, and most are HyperCard-based. Because its interface is tailored for PIM tasks, Pastel Manager is simpler to use than HyperCard products, according to Hank Williams, Pastel president. "It's a pile of stuff; you can just toss more in it," he said.

The program stores information as "items" within one file. Users can define and assign "tags" to categorize items, such as calendar entries or expenses, and then view the data by category. A layout editor lets users create custom forms for structured items, for example, formatting them for Filofax-style output.

Other features include alarms, a phone dialer, Gantt charts and "tickler" reminders. Pastel Manager will include predefined forms for address book formats, Rolodex, phone logs and expenses.

Pastel Development Corp. is at 81 Franklin St., Suite 3B, New York, N.Y. 10013; (212) 431-3421. □

PostScript virus on the loose

VIRUS ALERT

Newton, Mass. — A rogue PostScript file of some sort – perhaps a Trojan horse font or graphic – reportedly has reset passwords on Adobe PostScript printers at several sites around the country in recent weeks, preventing owners from using the output devices until an EEROM was replaced.

While the scope and exact nature of the problem are not known, several PostScript gurus have already written programs designed to prevent tampering with the password mechanism in Adobe controllers. Information and at least one of the protective programs are available on CompuServe's DTP Forum.

News

4 GCC grabs price lead in low-cost PostScript race

5 Iomega builds better Bernoullis for less

6 **Cool program for Mac graphics:** *Oasis from Time Arts promises a fresh approach.*

14 SuperMac color-matching program ready for expo

16 GCC opts for Ricoh mechanism in new removable

17 Full Impact 2.0 hits the street with lighter price tag

18 Colorizing star feature of Digital Darkroom 2.0

22 Portable RAM race: Contest of design, price

24 Technology Works branches out to Ethernet

26 Preferred starts summer season with slew of software

30 Sigma answers VDT scare with low-emission displays

32 Elefunt doesn't forget corporate shipping needs

33 Software Bridge format translator goes to Mac side

34 Programming libraries: Development by the book

35 New sights and sounds After Dark

36 E-Machines board lets ColorPage T16 show true color

40 PassProof protection package to seek break at expo

41 **New Media** Steve Rosenthal
The rights stuff: Will licensing problems limit multimedia's sources?

42 **StackWEEK** Steve Michel
Is there life after HyperCard 2.0? SuperCard 1.5 seeks its own turf.

Opinion

46 Editorial
It's no paradox: Lotus, Apple bolster the industry by helping hackers.

46 Letters

130 **Mac the Knife**

Organizational Mac

48 In-house repairs: Managers maintain budgets, control

52 **Tech Files** Joel West
Will System 7.0's sophistication put it out of reach of average users?

Graphic Arts Report

53 **Breaking out of black and white:** *The San Francisco Examiner struggles to master Mac color.*

53 Adobe gets high marks for Level 2 color model

59 Video: Input boards, options to deal with flood of data

74 **Boldface** Ezra Shapiro

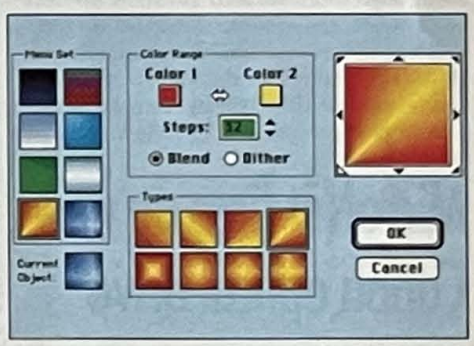
ProductWatch

77 Comparison: Macintosh PostScript fonts

78 **MacInTouch**

84 Review: FrameMaker 2.1 flexes DTP muscle

84 Reviews in Brief: PLP IIS, QMS-PS 820 Turbo



91 **Review:** *MORE graphical power from Version 3.0.*

91 Review: Tahiti warms up market for top-speed opticals

92 Review: Tempo II+ Tools means meatier macros

98 **Help Desk** David Ramsey

BusinessWatch

125 Windows 3 finds opening; Mac managers not rattled

125 dBASE Mac: New Era for database classic

128 **MarketWEEK**

102 Mail Order

107 Ad Showcase

110 Ad Index

111 Classified

123 Career Opportunities

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GCC takes lead with lowest-cost PS

By Pamela Pfiffner

Waltham, Mass. — GCC Technologies Inc. will surge to the head of the pack in the hotly contested race for the mantle of low-price leader in the PostScript laser-printing field.

GCC's new printers, slated to debut at the Macworld Expo in Boston next week, are the 4-page-per-minute Business LaserPrinter II, priced at $2,399, and the Business LaserPrinter IIS, an 8-ppm version priced at $2,899. Both replace GCC's earlier PostScript offering, the 6-ppm Business LaserPrinter.

The BLP II and the BLP IIS use Oki Electric LED-technology print engines with duty cycles of 180,000 and 300,000 pages, respectively. Both printers have 68000 processors running at 16.67 MHz and 2 Mbytes of RAM, expandable to 4 Mbytes.

The printers have 35 built-in fonts and use PostScript Version 51.8, which includes the new Adobe Type Manager font rasterizing technology. In addition to AppleTalk and RS-422 interfaces, they have a SCSI port that lets users connect a hard disk for font storage.

The BLP II models share many features with GCC's non-PostScript PLP II and IIS models, including an interactive LCD front panel and a sleep mode that saves power and cuts noise when the printer is not in use.

The paper cassette in both models holds 200 letter-size pages. Additional cassettes for legal, envelope, A4 and B5 sizes are $89 each. Replacement toner cartridges are $33.

Although positioned primarily as PostScript printers for the Mac, both models can be used on IBM PCs and compatibles.

A $149 PC accessories kit includes RS-232 serial and Centronics parallel interface cards, along with MS-DOS software. LaserJet II and Diablo 630 emulations also are available together in a second $149 package.

Scheduled to ship in volume in mid-August, both printers carry a one-year warranty.

GCC Technologies is at 580 Winter St., Waltham, Mass. 02154; (617) 890-0880. □

Hot competition over prices and features in 4-ppm PostScript printers

Model	Special features	Price
Apple Personal LaserWriter NT	Dual paper bin	$3,299
HP IIP	Configured with PostScript cartridge, AppleTalk and 1 Mbyte of RAM	$2,960
QMS-PS 410	Automatic emulation switching	$2,795
GCC Business LaserPrinter II	SCSI port	$2,399

MicroNet fires up new Canon optical drive

By Henry Norr

Irvine, Calif. — Announcing what it called "the world's fastest rewritable optical disc system for the Macintosh," MicroNet Technology Inc. next month will deliver a removable-media drive based on a new-generation, higher-performance Canon mechanism.

MicroNet's CMO-1 magneto-optical drive, the first of its kind in the Mac market, achieves sustained reads of 675 Kbytes per second, more than twice the rate, according to the company, of Sony-based drives MicroNet and many other storage vendors currently offer.

Average access time for the Canon drive is 65 milliseconds, compared with 95 for the Sony, but the CMO-1's improved performance is primarily the result of a faster spindle speed (3,000 rpm vs. 2,400 rpm), MicroNet said.

In exchange for better performance, however, the CMO-1 has lower capacity. Canon uses proprietary-format removable disks that hold 454 Mbytes, whereas the standard Sony-format disks hold about 600 Mbytes. Cartridges cannot be interchanged between the two mechanisms.

Canon also offers a unique air-flow and dust-filtration system, with a user-replaceable filter, to reduce the risk of contamination.

MicroNet's CMO-1, which will be unveiled at next week's Macworld Expo in Boston, will cost $4,495; a bundle with Dantz Development Corp.'s Retrospect archiving and backup software will be $4,595.

MicroNet Technology Inc. is at 20 Mason, Irvine, Calif. 92718; (714) 837-6033. □

The desktop Mac
with more tha

Iomega boosts Bernoulli reliability

By Henry Norr

Roy, Utah — Making a determined bid to expand its share of the Mac removable mass-storage market, Iomega Corp. last week announced new models, lower prices and dramatically improved reliability ratings on drives and media in its Bernoulli line.

The new drives, a brand-new compact model called the Transportable and an enhanced dual-drive unit called the Dual, join the battery-operable Portable introduced last year. Using both lab and field data, Iomega rates all three at 60,000 hours MTBF (mean time between failure), compared with 25,000 for its older models and 30,000 for competing removable-cartridge systems.

At the same time, Iomega said it will this week begin offering a 44-Mbyte Bernoulli "Gold Standard" cartridge, an improved design that carries a five-year warranty.

The Transportable, an AC-powered SCSI unit that fits under a compact Mac or stands on its side, is priced at $1,399, 19 percent below the previous entry-level model. At the same time, Iomega reduced the price of its Portable model by 16 percent to $1,799. The new Dual costs $2,599, compared with $2,799 for the earlier two-drive Bernoulli Box II it replaces.

All three, available now, also require a $49 Mac cable and software kit. "Gold Standard" cartridges list for $140, compared with $125 for the older design they replace, but are expected to be available at street prices of less than $100.

Iomega's patented Bernoulli technology makes the flexible media aerodynamically "flying" inside its cartridges immune from head crashes.

Iomega Corp. is located at 1821 West 4000 South, Roy, Utah 84067; (800) 456-5522. □

MapInfo links map, table and chart views of data

By Raines Cohen

Troy, N.Y. — Bringing data analysis to the Mac desktop-mapping market, MapInfo Corp. last week introduced MapInfo for Macintosh. The software links map, table and chart views of data with a relational database that supports SQL.

The application, a more advanced counterpart to MapInfo's highly regarded MS-DOS version, is due to ship this fall for $695.

The database engine of MapInfo for Macintosh instantly updates the different views of related data. Called Hot Views, the feature lets users see query results in mapping, graphing and text views at the same time.

Selecting an object or group of objects on a map, for instance, automatically creates a new database of those entries in a table or chart view; MapInfo calls this Domain Mapping.

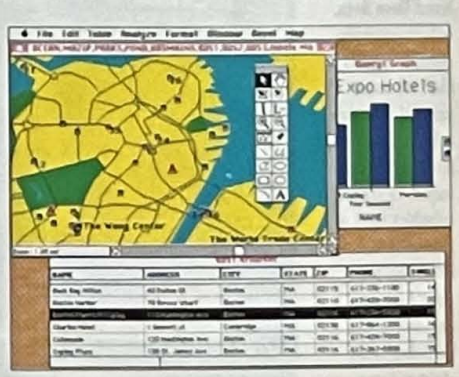
Conversely, entering a query or selecting lines in a table also highlights the corresponding objects in the map and chart views. In addition, Hot Views can display different but related information, such as a map of the United States, a chart of major customers and a table listing purchases.

MapInfo's relational database can run on a network; import ASCII text; and directly read files written in DBF (used in dBASE and FoxBASE), Microsoft Excel and Lotus formats. A graphical query builder lets users type SQL statements directly or construct sophisticated queries and perform relational joins without programming.

The mapper subprogram can shade objects by value and perform rapid searches by name, value or location. Users can create and edit maps using built-in drawing tools or import files in PICT and numeric form.

MapInfo for Macintosh includes maps of the United States, with state and ZIP code locations (but not boundaries). The company also offers optional modules of counties down to the street level, which the company said are accurate to within 60 feet. Modules are priced at $225 each; prices for other countries vary.

MapInfo Corp. is at 200 Broadway, Troy, N.Y. 12180; (518) 274-8673; (800) 327-8627. □



MapInfo for Macintosh can select map objects by complex relational criteria such as price and distance from a point.

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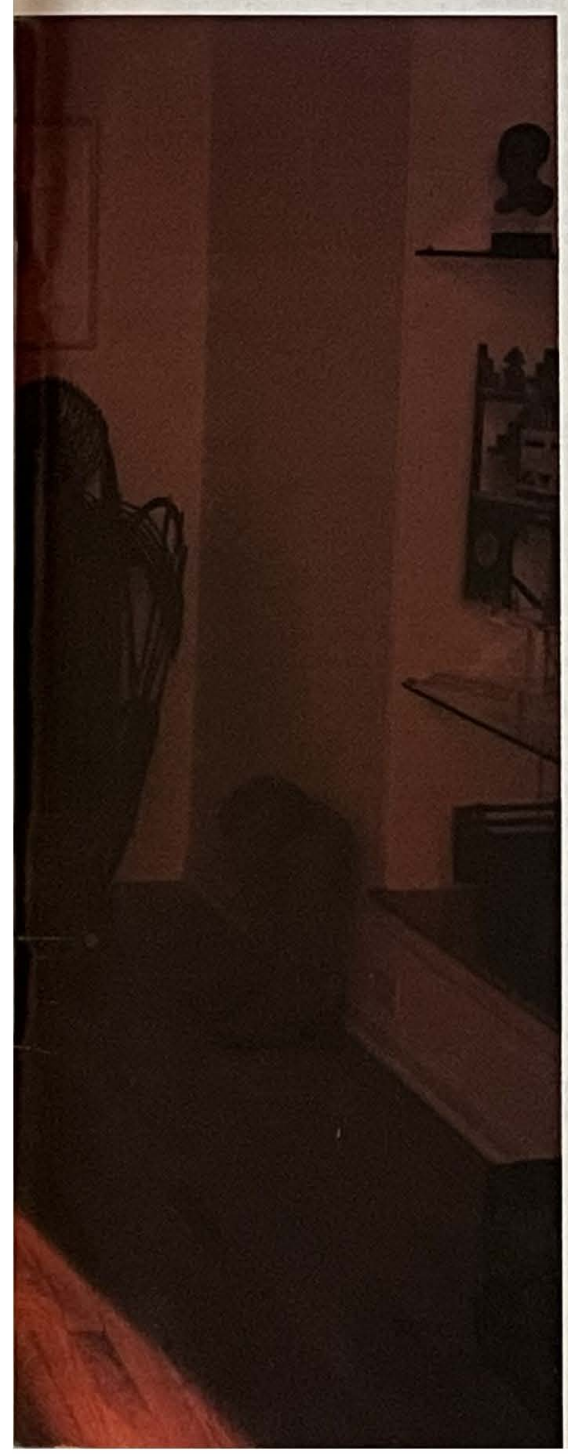
n one desktop.



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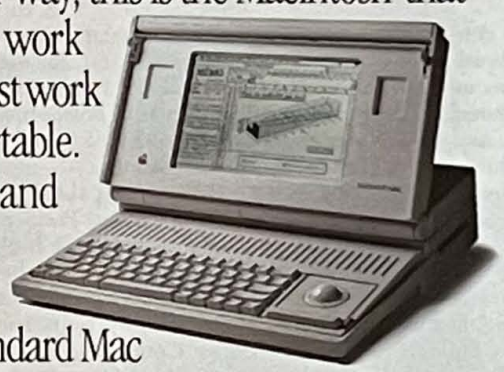

The Portable is, first and foremost, a full-fledged, completely compatible Macintosh. It's got the standard Mac keyboard, and comes with a page-width screen. It'll run all the same programs you're currently using, at twice the speed of our best-selling Macintosh SE. And, just as important, it plugs into any Mac peripheral.

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Digital F/X rolls out desktop video

Video F/X system plays PostScript

By Connie Guglielmo

Mountain View, Calif. — Hoping its system will be for video what the LaserWriter was for desktop publishing, Digital F/X Inc. will roll out a desktop video production system for the Mac II at Macworld Expo in Boston next week.

Video F/X, to ship in October for $9,995, offers video, audio and graphics editing tools. It includes a video-frame buffer board and a control box that use proprietary analog and digital technology to convert signals between the Mac and NTSC (National Television System Committee) video sources.

The board can digitize 32-bit color video for capture and display on the Mac in real time and output Mac signals to videotape. The box contains switchers for mixing video sources and stereo sound as well as a machine control board that puts videotape recorders and other media devices under Mac control.

The main software for Video F/X, a $9,995 hardware and software video production system for the Mac, is the Organizer Window, where users plan their video by generating scripts, linking scripts to video footage and then logging the video clips.

Other system features include an alpha keyer with support for multiple layers of transparency that allows Mac graphics to be superimposed over video. A transition generator lets users create effects such as fades, wipes and dissolves.

Software includes the Organizer Window, where users generate scripts, link scripts to video footage and log video clips. The software automatically records time-code information and duration for each clip and displays the first frame.

After users arrange video clips, insert graphics and add transitions and audio, information is displayed in a time line on-screen as well as stored as an Edit Decision List. Video F/X then assembles the sequence and records it to tape.

Digital F/X also announced that it has licensed Adobe PostScript, allowing Video F/X to translate PostScript digital data, such as Mac graphics and text, for overlay onto analog video. PostScript fonts and Encapsulated PostScript graphics are anti-aliased for smooth display in video format.

"The coolest thing is that you can now take any PostScript graphic and turn it into high-quality video imagery," said beta-tester Russell Brown, senior art director for Adobe Systems Inc., based here. "Composing a piece is like putting together a page layout. You put each piece side by side and then decide how they transition."

Video F/X requires a color Mac II with 8 Mbytes of RAM, 40 Mbytes of storage, two videotape decks and a video monitor. A complete system will cost from $20,000 to $35,000.

The 4-year-old Digital F/X counts Apple, Time Warner, and industry notables such as ON Technology founder Mitch Kapor and Adobe Chairman John Warnock among its investors.

Digital F/X Inc. is located at 755 Ravendale Drive, Mountain View, Calif. 94043; (415) 961-2800. □

Time Arts provides graphic Oasis instead of Mac version of Lumena

By Connie Guglielmo

Santa Rosa, Calif. — Abandoning its plans to release a Mac version of Lumena, its best-selling paint and illustration program for IBM PCs and compatibles, Time Arts Inc. has instead written a new program from the ground up that the company says will change the way users think about graphics on the Mac.

Called Oasis, the program will be unveiled at the Macworld Expo in Boston next week. Now in early beta testing, it will ship in October for between $700 and $800.

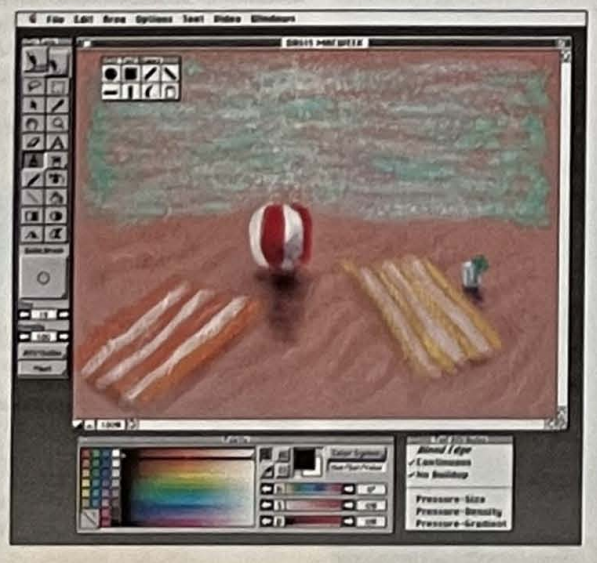
Oasis offers a combination of text, paint and illustration tools for creating imagery that can be output to print or video.

The main tool is the Artist brush, a pressure-sensitive tool designed for use with graphics tablets from Wacom Inc. of Paramus, N.J. By adjusting the density, size and gradient of the brush, users can simulate almost any medium on-screen, including watercolor, chalk, pastels and charcoal. As a result, users can create graphics with a fine-arts look, the company said.

Time Arts also hopes to break ground with Oasis' interface and color palette. Unlike other Mac graphics programs, in which double-clicking on a tool brings up its attributes dialog box, Oasis' tools are tear-off menus.

In the color palette, users can define and flip among up to eight palette "pages" at once. Oasis supports several color models, including a video palette that locks out colors that do not reproduce well on video.

Time Arts Inc. is at 1425 Corporate Center Parkway, Santa Rosa, Calif. 95407; (707) 576-7722. □



Oasis, a new paint and illustration program from Time Arts, offers pressure-sensitive tools that let users simulate watercolors, charcoals, inks and other media to create graphics with a fine-arts look. With the color palette, users can define and switch among eight palette "pages."

For the Record

The price listed for DiskDoubler in the July 10 review was incorrect. The price for Version 2.02 is $79.

The address listed for SoftView Inc. in the July 10 review was out of date. The company's current address is 1721 Pacific Ave., Suite 100, Oxnard, Calif. 03933.

Norton finally ships Utilities for the Mac

By Raines Cohen

New York — Peter Norton Computing Inc. last week shipped The Norton Utilities for the Macintosh, the much-anticipated disk-maintenance and data-recovery program it announced last April (see MacWEEK, Mar. 20).

The package includes integrated applications for damage recovery, retrieval of deleted files and disk optimization. The $129 program also includes several desk accessories to speed finding and manipulating files.

After it announced the program, Norton merged with Symantec Corp., the publisher of SUM II, which is the current Mac market leader in the same category. The combined company is now in the unusual position of shipping two closely matched utilities.

"Speed, in-place recovery [through the Control Panel] and simplicity are the features I appreciate the most," said Jay Weiss, president of The Beta Site of Meriden, Conn. "For the novice, it offers tremendous ease of use, while it also lets the knowledgeable user make advanced changes to disk structure.

Enthusiasm among testers was widespread but not universal. "It's faster and more visual than SUM, but it screws up repairs SUM can handle," said one tester.

Peter Norton Computing Inc. is at 100 Wilshire Blvd., Santa Monica, Calif. 90401; (213) 319-2000. □

Video Explorer aimed at high end

By John Webster

Inverness, Ill. — Intelligent Resources, a start-up company just entering the computer video-processing field, will make its debut at Macworld Expo in Boston next week with a new board called the Video Explorer.

The board, to be priced less than $10,000, is expected to compete in the high-end video-production and post-production market with character generators, production switchers and digital-effects tools, Intelligent said.

Scheduled to ship early next year, Video Explorer will include two custom chips that handle 32-bit video input and output in real time.

A custom video bus will let users attach NuBus video cards, including other Video Explorers, directly to the board. Proprietary video-effects software also will ship with the product.

Indianapolis-based TrueVision this month also relaeased a new generation of full-motion video boards (see story, Page 62).

Intelligent Resources is located at 1626 Colonial Parkway, Inverness, Ill. 60067; (708) 705-9388. □

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BPA

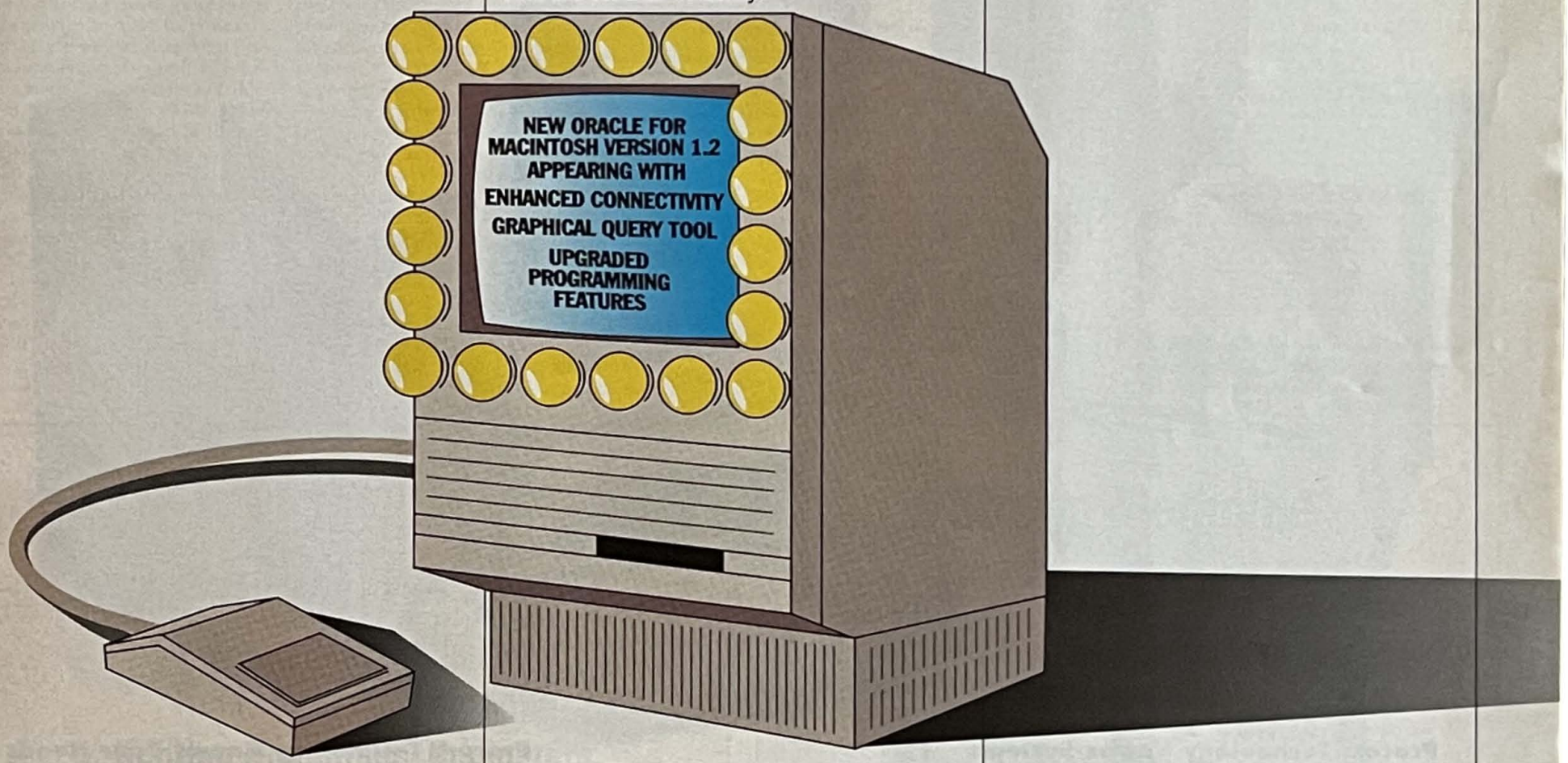
The Mac SQL Sequel

The first SQL database for Macintosh has enhanced connectivity and a new graphical Query Tool.

The first version of ORACLE for Macintosh was a big hit. Industry analysts gave it a thumbs up. Thousands of users gave it their support. And InfoWorld Magazine gave it Product of the Year.

Now Oracle announces ORACLE for Macintosh Version 1.2, with enhancements for both end users and developers.

Improved connectivity options make it even easier to access corporate data on servers, minis and mainframes. Version 1.2 supports virtually any network. Including Async, Apple's MacTCP, Novell's TCPort, Alisa's TSSnet, DCA's MacIRMA 3270 and Tri-Data's Netway.


NEW ORACLE FOR MACINTOSH VERSION 1.2 APPEARING WITH
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Illustrator

From Page 1

Adobe also is adding automatic kerning, leading, and word and letter spacing.

For special effects, text now can be created directly on a curve and moved freely along the path. All text, whether within a box or on a path, can be directly rotated, skewed and scaled in real time. Users also can now convert any PostScript font into an outline that can be edited.

For text layout, the program supports automatic text wrap around objects. Text also can be flowed from one column to another column or to any other shape.

▸ **Charting and graphing.** Users will be able to generate charts and import data from programs such as Microsoft Excel to automatically generate bar, line, area, scatter and pie charts. When information is changed in Illustrator's Graph Editor, graphs are automatically updated. Graphs, which are created as a grouped object, can be edited using a new direct-selection tool that lets users select and modify separate attributes within a grouped object.

Graphs can be customized and saved as templates, Towner said.

▸ **Interface.** In addition to streamlining dialog boxes, Adobe has altered some of the tools to make them more easily identifiable and has added an interactive feedback window that informs users which tool has been selected.

Other new features include the capability to import Adobe Photoshop images as backgrounds. The revamped Adobe Separator now provides file information and a preview of the image to be separated.

Registered users can upgrade to Version 3.0 for $99 until Dec. 31; after that, the upgrade is $149. Users who purchase Illustrator 88 between July 1 and the ship date will receive a free upgrade.

Adobe Systems Inc. can be reached at 1585 Charleston Road, P.O. Box 7900, Mountain View, Calif. 94039; (415) 961-4400. □

Adobe manages type faster

By Pamela Pfiffner

Mountain View, Calif. — Adobe Systems Inc. will release its latest version of Adobe Type Manager, the utility that brings the benefits of outline-font scaling to the Macintosh screen and non-PostScript printers, at next week's Macworld Expo in Boston.

ATM 2.0 is twice as fast as the preceding version, 1.2, running on a Mac Plus or SE, the company said. Screen type quality also is improved in the new release.

A key advance in ATM 2.0 is the Font Porter utility, which simplifies installing bit-mapped fonts. Rather than use Apple's Font/DA Mover, which can sometimes create confusion by changing font ID numbers, users drag Font Porter and desired fonts, represented in the Finder by suitcase icons, into the System folder and restart. The fonts are loaded automatically.

Registered ATM users can upgrade to 2.0 for $20, plus $7.50 postage and handling. For an additional $39, users can buy any Adobe Type Library typeface package with the upgrade.

Adobe also announced the availability of Adobe Type Set 3, a $198 package of 11 of Adobe's most popular typefaces. The set, which includes Adobe Garamond, Helvetica, Helvetica Compressed and Tekton typefaces in different weights, represents a savings of more than $400 compared with the cost of purchasing the same faces separately.

Adobe Systems Inc. is at 1585 Charleston Road, P.O. Box 7900, Mountain View, Calif. 94039-7900; (415) 961-4400; (800) 642-3623. □

Aspects

From Page 1

documents are loaded into memory on each machine when first opened; since only cursor activities and changes need be transmitted during editing, they appear on all screens almost simultaneously.

The program, priced at $299 per user and scheduled for release in late September, uses the conference as its central metaphor. The conference initiator serves as moderator and manages access privileges. Options range from a free-for-all brainstorming mode, in which all participants have editing cursors (32 cursor designs are built in) to a formal mode in which no user can edit until authorized by the moderator.

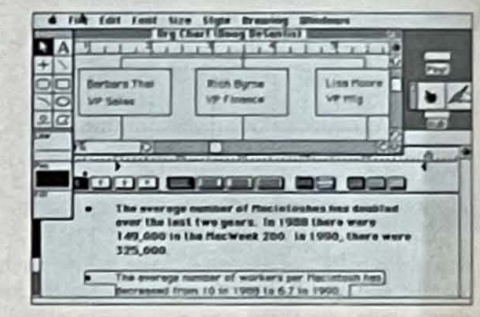
The program includes its own basic word processing, painting and drawing modules. The graphics modules function like the familiar meeting-room white board or the proverbial luncheon napkin, the company said.

Users also can open documents from their own disks at any time. Filters licensed from DataViz Inc., the Trumbull, Conn.-based developer of the MacLink Plus series, allow importing of documents from Microsoft Word versions 3 and 4, MacWrite II, and MacDraw, as well as PICT-format files.

An object- and paragraph-locking mechanism ensures that only one user at a time can modify the same part of a document at the same time.

Group Technologies said patents are pending on some of the program's technology. The 2-year-old company said the idea for Aspects grew out of the frustrations of two medical researchers attempting to collaborate on complex research reports, including charts and graphs as well as text, from sites thousands of miles apart.

Group Technologies Inc. is located at 800 N. Taylor St., Suite 204, Arlington, Va. 22203; (703) 528-1555. □



Aspects 1.0, a new "real-time document-conferencing" program from Group Technologies, includes painting, drawing and word processing capabilities.

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Mac IIci

From Page 1

mote the machine. "We haven't pushed the IIci because it is less compatible in certain instances than the IIcx or IIfx," said Paul Collette, president of Lake Shore Computers of Lake Forest, Ill.

"The IIci has been branded as incompatible," said one source. "People are scared of it, and dealers have been given extra dollars to push the IIci as a way of attracting customers." Apple is expected to readjust IIci prices when the low-cost Macs come out this fall, the source said. "Apple is using this situation to see how far they can go with pricing."

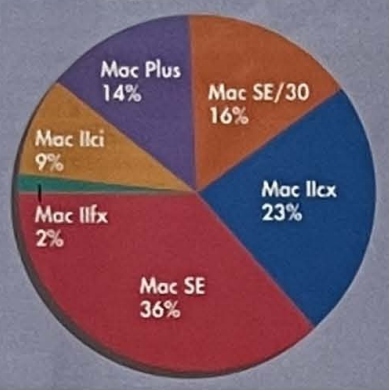
Prices of vanilla Mac IIci machines have been cut by about $1,100 to high-volume resellers, dealers said. List prices have not been changed; however, some dealers are passing on those price cuts to customers. Retail prices are expected to be cut by mid-October.

"If Apple settles on the IIci as the base corporate machine and keeps the price down, the fact that it doesn't need a video card is attractive," said Harold Mignola, senior purchasing agent with BP Exploration Inc. of Houston. "We bought the IIci before the price change because there was only a $600 difference when you factor in the video card. But with the price cut, the difference is only $10. I'm seeing dealer wars."

Mignola said he bought several 4-Mbyte Mac IIci machines with 80-Mbyte hard drives for $4,080 each.

Estimated Mac sales by model

For fiscal year 1990, Apple USA



The Mac IIci with 1 Mbyte of RAM — both with and without a 40-Mbyte hard disk — has been phased out by Apple; it is available to dealers while supplies last.

"The IIcx is my mainstay," said David Pincus, president of New York-based Microcomputer Publishing Center, which sells Macs primarily to the graphic arts market. "But now you'll see a product line anchored around the IIci. I expect brisk business with the IIci machines."

Although no time frame has been given for the discontinuation of the IIcx, the move would help Apple better differentiate its products.

The six-slot IIfx uses a 40-MHz 68030-based processor. The IIci and IIcx, both three-slotters, use a 68030 processor running at 25 MHz and 16 MHz, respectively. The new one-slot Mac IIsi, due in October, is expected to have a 20-MHz 68030 processor.

"My inclination is to see the IIci as the primary step up from the SE/30," said Scott Harris of Computer Edge in Mount Kisco, N.Y. "It's easier to justify the amount of difference in price because of all the stuff you're getting."

"You get a lot more performance pluses in the IIci at that price," said Dan Neesley, president of North Shore Computers in Milwaukee. "There's more of a difference between the IIci and the IIcx than between the IIci and the IIfx."

But while some dealers are disappointed at the prospect of yanking a hot-selling product, most could see the reasoning.

"By saying the IIci is now the main machine people will buy, Apple is telling its developers to make their software 32-bit clean," Neesley said. "The IIci represents Apple's architecture of today, not yesterday." □

Carolyn Said and Rochelle Garner contributed to this report.

Outbound

From Page 1

Apple offers. "Apple missed the opportunity to deliver what customers wanted in a portable Mac," said Peter Rogers, an analyst with Robertson, Stephens & Co. in San Francisco. "They are now responding with some urgency, but they won't have a true laptop until late 1991 at the earliest."

Sources said technology in the Outbound machine infringes on Apple patents or copyrights. Rather than take legal action against Outbound and eliminate an alternative to Apple's bulkier and more expensive portable, Apple reportedly will purchase rights to both the infringing technology and unique Outbound-developed technology.

Apple then will license the technology back to Outbound, so that it can continue to sell its laptop, sources said. However, Outbound will pay royalties on the technology, allowing Apple to recover its investment, reportedly $3 million, within three years. As owner of the technology, Apple will maintain control of the market and prevent others from duplicating Outbound's effort, sources said.

The Outbound Laptop System offers Mac compatibility in a smaller, lighter, less costly package than Apple's Macintosh Portable. By borrowing the ROMs from a host Macintosh Plus or SE, the Outbound can run Mac applications and use host resources such as keyboard, screen, floppy disk drive and SCSI ports when connected to the Macintosh.

Some analysts said Apple will provide Outbound with Mac ROMs. Outbound's market could balloon if users did not have to "lobotomize" a Mac Plus or SE to obtain the ROMs vital to the Outbound's Mac-compatible design. But sources maintain that Apple has no plans to release its crown jewels to Outbound.

"The deal makes sense long term if Apple uses Outbound's technology to build a portable of its own," Rogers said. "The only way Apple can fill the gap is with an Apple-logoed laptop because Outbound does not have the credibility or manufacturing clout to create a big market demand." □

Outbound makes SCSI connection

Outbound Systems Inc. announced this month several enhancements and upgrade options for its Mac-compatible laptop. An operating system upgrade, external floppy drive and SCSI adapter/emulator are scheduled for August release.

The Outbound, which retails for $3,000 to $4,000 depending on configuration, lacks its own external SCSI port and, when configured with an internal hard drive, does not include a floppy disk drive. To satisfy floppyless users, Outbound announced a 3.5-inch SuperDrive-compatible external floppy drive. The drive, which weighs just 1 pound, can read and write any Mac disk format, as well as the 720-Kbyte and 1.44-Mbyte MS-DOS formats. The drive will sell for $349.

Outbound also announced a $149 SCSI Adapter and Emulator for connecting the laptop to SCSI devices such as scanners, printers and storage devices. The emulation functions let the Outbound behave as a SCSI device itself, so that any Mac can tap the contents of the Outbound's internal hard disk and battery-backed RAM disk.

Outbound also announced new system software, which is available free to current users and is now included with all shipping CPUs. Release 1.1 improves power-management features and adds support for the new Outbound features as well as for System 6.0.5.

Outbound Systems Inc. is located at 4840 Pearl East Circle, Boulder, Colo. 80301; (303) 786-9200. — *By Raines Cohen*

Backup

From Page 1

respected archiving and backup software; Golden Triangle Computers Inc.'s DiskTwin, a hardware and software combination that supports disk duplexing; and a new disk-mirroring option in a new version of Storage Dimensions' MacinStor hard disk installer utility.

▶ **Retrospect Remote.** Retrospect Remote will make it possible to back up an entire network, including both servers and local workstations, to any storage device attached to any workstation on any AppleTalk-protocol network, including LocalTalk, PhoneNet and EtherTalk. Administrators can prepare automatic, unattended backups with the program's scripting language and built-in calendar.

Due in September, the new program will provide support for multiple zones, access to multiple hard disks on each remote workstation, automatic backup to multiple sets and file restores over the network. Security options include a password access system to archived files and to remote workstations, file-level encryption and even encryption of network traffic.

Priced at $449, the standard Retrospect Remote package will support 10 networked Macs and the administrator's machine. By purchasing a $249 Retrospect Remote 10-Pack, additional users can be added in increments of 10 up to a maximum of 130 users per host Mac. Owners of Retrospect, also $249, can upgrade to Retrospect Remote by purchasing the 10-Pack.

▶ **DiskTwin.** Golden Triangle's DiskTwin, available immediately at $999, brings disk duplexing, a technique widely used on mainframes and minicomputers, to the Mac. Using a NuBus card that provides a second, separate SCSI bus, the product automatically maintains an identical duplicate of the primary disk on any Mac II workstation or server.

Users simply attach a second disk of capacity equal to or larger than the primary disk and "synchronize" the two with DiskTwin's transfer facility, which works at up to 30 Mbytes per minute. Thereafter, the DiskTwin software transparently duplicates in real time every change made to the primary disk.

In the event that the primary disk fails, the network or individual user need only connect the backup disk and be up and running in moments.

▶ **MacinStor installer utility.** Version 3.0 of Storage Dimension's Installer Software, which starting this week will ship on all of the company's hard disk susbsystems, uses a related technique called disk mirroring to assure fault tolerance. Mirroring also creates an exact duplicate of a primary disk, but it makes the copy on a second disk on the same SCSI bus.

If one of the drives fails, Storage Dimensions said, the second comes on-line automatically — a feature not yet available in the DiskTwin software. And while duplexing has no effect on the primary drive's performance, Storage Dimensions said its technique delivers a modest overall improvement in performance: The driver reads from the disk where data is most readily accessible, a speedup that more than compensates, the company said, for a doubling of write times.

On the other hand, the MacinStor program is available only with mechanisms supported by Storage Dimensions, while DiskTwin works with SCSI drives from any vendor.

The new MacinStor software also provides disk spanning, a technique that makes several distinct drives into one logical volume. Upgrades are available to owners of Storage Dimensions systems for $50.

Dantz Development Corp. is at 1510 Walnut St., Berkeley, Calif. 94709; (415) 849-0293. Golden Triangle Computers is at 4849 Ronson Court, San Diego, Calif. 92111; (619) 279-2100. Storage Dimensions is at 2145 Hamilton Ave., San Jose, Calif. 95125; (408) 879-0300. □

Claris integrated program in works

Santa Clara, Calif. — Claris Corp. reportedly is readying an integrated software package to compete against Microsoft Works in the small-business and education markets.

While Claris officials declined to comment, sources said the company acquired rights to the Mac version of AppleWorks from programmers Scott Holdaway and Bob Hearn, who were responsible for Claris' AppleWorks GS Version 1.1.

That package for the Apple IIGS includes page-layout, graphics, communications, word processing, database and spreadsheet modules.

The Mac version is expected in the spring or summer of next year. □

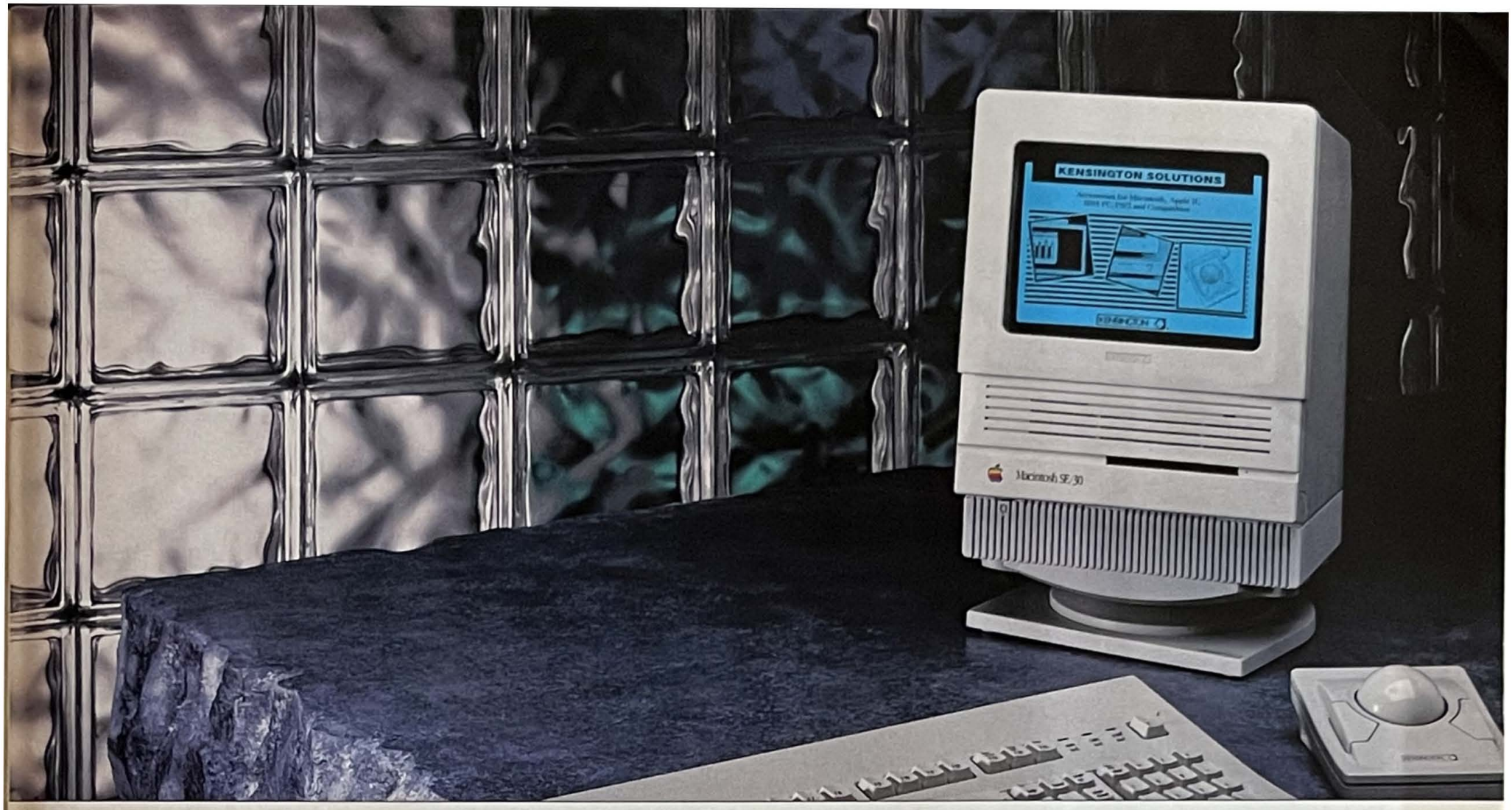
Shiva puts Mac on FastPath 4 for $999

Cambridge, Mass. — Owners of the Kinetics FastPath 1, 2, or 3, or the GatorBox from Cayman Systems Inc., can now trade in their current hardware and get the latest FastPath model, the FastPath 4, for $999, under a special promotion recently announced by Shiva Corp.

The FastPath 4, which Shiva licensed from Novell Inc. earlier this year, normally retails for $2,795. It features a 16-bit processor, a fuller implementation of TCP/IP, and DECnet support and works with both thick and thin Ethernet.

The offer is good for the month of August.

Shiva Corp. is located at 155 Second St., Cambridge, Mass. 02141; (617) 864-8500. □



EYESORE VS. EYE PROTECTION

As today's monitors get bigger and brighter, anti-glare filters become less of an option and more of a necessity.

The right filter can combat eye fatigue, help eliminate headaches, even reduce overall body stress.

Yet, the irony is that something so good for your eyes can be such an eyesore.

In fact, most filters look like they belong to someone else's system.

The fit is sloppy. The colors don't match. The materials are different.

Kensington has a different idea.

Instead of making a filter that will fit on any monitor, we make filters that will only fit a *specific* monitor.

An example is our Maccessories® SE Anti-Glare Filter.

It looks so much a part of the SE, you would think it was designed by the same people who designed the SE.

The styling is complementary. The color identical. Even the same material is used.

And unlike generic filters, the fit is perfect. So light passes through the filter, never around it.

Kensington uses only optical quality glass with a ceramic anti-reflection and scratch-resistant coating.

The result is a 96% reduction in glare. And an improvement in contrast and clarity of up to 20 times.

In short, the most advanced eye-protection system you can find today—it even filters out VLF and ELF radiation and dissipates static.

Kensington has custom designed screens for the Mac, Mac Plus, Mac SE, Apple IIGS, as well as for the entire Mac II family of large screen monitors.

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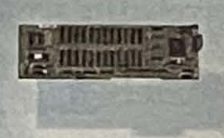

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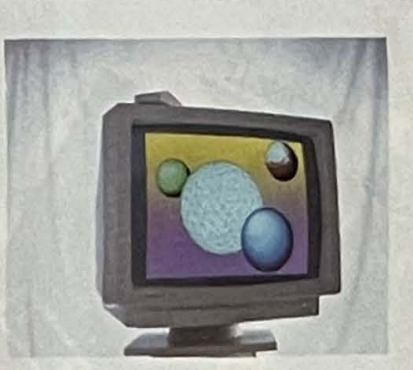

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SuperMac offers color matching

By John Webster

Sunnyvale, Calif. — SuperMac Technology next week will introduce a program it claims solves the color-matching problems that have long plagued graphic artists and desktop publishers.

Tentatively called the Electronic Color Matching System, it will enable users to match continuous-tone and spot color between the screen and output devices, such as printers and scanners. SuperMac said it will announce co-marketing agreements with Mac peripherals manufacturers, who will bundle the software with their products.

Due out by year-end, the software has three components:

▶ A "color database," containing color values, that users move into the Mac's System folder for transparent color matching.

▶ A display calibration device.

▶ A color picker that lets users match colors on-screen with those produced by peripherals.

Consultants familiar with the technology said the process is vital for ensuring WYSIWYG color representation. "To make color into a process, you have to relate what the scanner sees, what the screen displays and what the printer prints, because they all have different color gamuts," said L. Mills Davis, president of Davis Inc., a color computer graphics consultant in Washington, D.C.

The software also will be bundled with SuperMac's Spectrum/24 PDQ board, a $4,999 32-bit QuickDraw accelerator.

Also on SuperMac's schedule for next week's Macworld Expo is a technology demonstration of software and hardware-based still-image and live video compression.

SuperMac is at 485 Potrero Ave., Sunnyvale, Calif. 94086; (408) 245-2202. □

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MacroMind's MediaMaker to make expo debut

By Connie Guglielmo

San Francisco — It made a guest appearance at last year's Macworld Expo under the direction of Apple CEO John Sculley, but next week MediaMaker 1.0 gets to play a starring role as the newest member of the MacroMind cast.

A joint development effort of MacroMind Inc. and The Multimedia Corp. of London, MediaMaker is a media-integration product for assembling multimedia presentations containing graphics, animations, video, and CD and digitized sound.

It will ship in October for $495.

Through MediaMaker's point-and-click editing system, users can:

▶ Control external devices, such as videodiscs, videotape players, CD-ROM drives and monitors. It also supports third-party peripherals, such as video digitizing boards.

With NTSC (National Television System Committee) conversion devices for moving video and graphics to and from the Mac, users can output presentations to tape using the Print to Tape command.

▶ Edit video, audio, animation and graphics and store the clips as picons (picture icons) in Collections, or media databases. There are separate editors for each data type. Each picon contains source, time-code and duration information.

▶ Assemble Sequences, or time-based presentations. Picons stored in Collections are simply dragged into a time line, allowing users to synchronize video to music, graphics, animation and user "events," such as mouse clicks.

MacroMind also announced a $20 XObject Developer's Toolkit that lets programmers create XObjects, which are similar to HyperCard's external commands (XCMDs), for use in MacroMind Director 2.0 and the company's other products. XObjects can be used to add pop-up menus, windows, XCMDs and controls for external media devices.

MacroMind Inc. is located at 410 Townsend St., Suite 408, San Francisco, Calif. 94107; (415) 442-0200. □

MediaMaker lets users save video clips, sounds, graphics and animations as picons. The picons can then be dragged into a time line to create a multimedia presentation.

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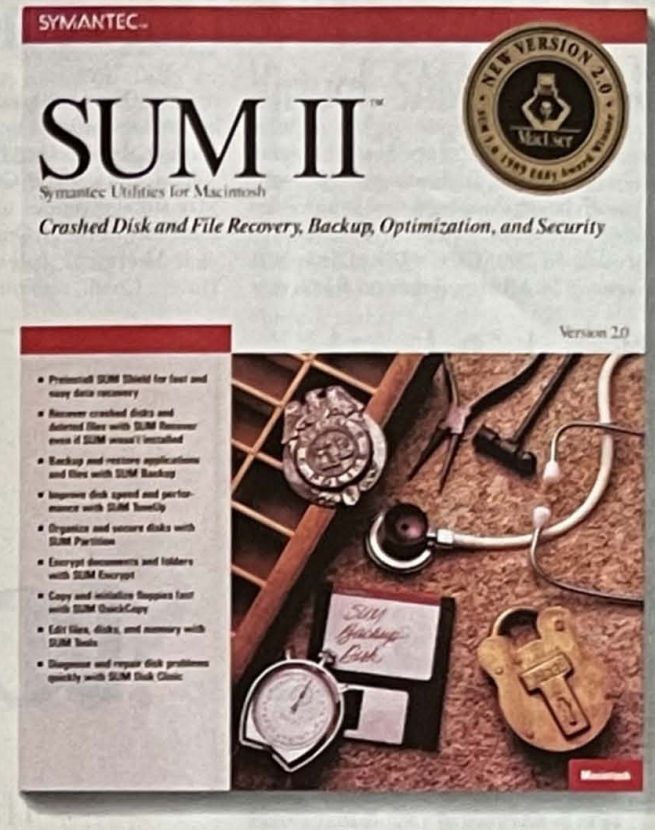
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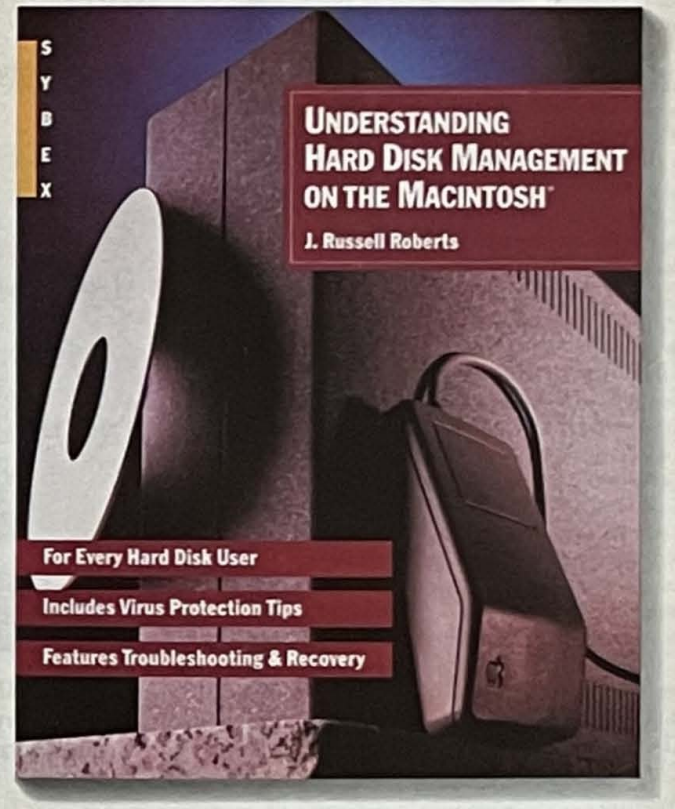
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GCC chooses Ricoh for removables

By Henry Norr

Waltham, Mass. — Spurning the popular SyQuest removable-storage technology as "unreliable," GCC Technologies Inc. will next month begin shipping a new removable-cartridge drive based on a Ricoh mechanism.

Priced at $1,299, GCC's UltraDrive 50R stores nearly 50 Mbytes of data on Ricoh cartridges. One of the cartridges, which cannot be used in SyQuest mechanisms, is included; additional ones cost $129 each.

The move made GCC the second major Mac storage vendor to question publicly the reliability of the SyQuest system. Earlier this year Microtech International Inc. of East Haven, Conn., also introduced a Ricoh drive after temporarily suspending shipments of its 44-Mbyte SyQuest model.

"We knew our customers wanted removable storage because it's so convenient," said Larry Concannon, GCC mass-storage product manager. "But we wanted something that would meet our standards for fixed drives. We tested 128 SyQuest drives over 18 months, but we couldn't qualify them."

Arnold Cooley, vice president of sales at Fremont, Calif.-based SyQuest Technology, said, however, that his company had had no official contact with GCC for more than 15 months. "We've sold more than 400,000 drives and 1.6 million cartridges, and our failure rate is normally no more than 1 percent on cartridges and 3 percent to 3.5 percent on drives."

The UltraDrive, which carries a two-year warranty, offers an average access time of 25 milliseconds, GCC said. Bundled software includes a variety of GCC utilities, shareware and Symantec Corp.'s SUM II.

GCC Technologies is at 580 Winter St., Waltham, Mass. 02154; (617) 890-0880. □

GCC packs Polaroid technologies in new ColorFast slide recorder

By Pamela Pfiffner

Waltham, Mass. — GCC Technolgies Inc. will next week enter the world of color with a color digital film recorder for the Mac based on technology from Polaroid Corp.

Called ColorFast, the $5,999 SCSI device will be announced at Macworld Expo in Boston for shipment in late August. It is based on a new Polaroid engine and comes with a 35mm camera back and a Pack Film adapter for generating proofing prints and transparencies with Polaroid instant films.

Accessible via a Chooser-selectable driver, ColorFast combines color QuickDraw and GCC's outline-font technology, with 22 Bitstream fonts built in. It also is compatible with Adobe Type Manager.

ColorFast records color data at 33 bits per pixel and offers four imaging resolutions, ranging from low-resolution screen preview and draft modes to a professional-quality mode with 4,096 vertical lines. Highest-quality imaging takes four minutes per slide on average, the company said; imaging with a resolution of 2,048 lines takes an average of two minutes per slide. The software allows batch processing of slides from different applications.

The average cost of producing a slide with ColorFast is 75 cents compared with $12 per slide at service bureaus, according to GCC.

ColorFast's software has basic color controls for adjusting RGB (red, green, blue) values, contrast and brightness. A Polaroid auto-calibration feature adjusts the unit at start-up, automatically compensating for misalignment.

The film recorder ships with a sampler of seven types of Polaroid film, each of which demonstrates ColorFast's output options. These include five 35mm films: Presentation Chrome for high-quality slides; PolaGraph for high-contrast black-and-white output, such as architectural drawings; PolaBlue blueprint film for white-on-blue output; PolaPan instant developing film for continuous-tone black-and-white images, such as X-rays; and PolaChrome instant slide film. PolaChrome can be developed on the spot; a hand-cranked auto-processor and an illuminated slide mounter are included.

ColorFast also ships with two peel-apart instant films — Polaroid's 669 Pack Print instant film and its Colorgraph 691 Overhead instant transparency film — for use with the Pack Film Camera Adapter. GCC is providing an overhead transparency enlarger as well.

Other camera-back options are due later in the year.

ColorFast carries a two-year limited warranty on parts and service.

GCC is at 580 Winter St., Waltham, Mass. 02154: (617) 890-0880; (800) 422-7777. □

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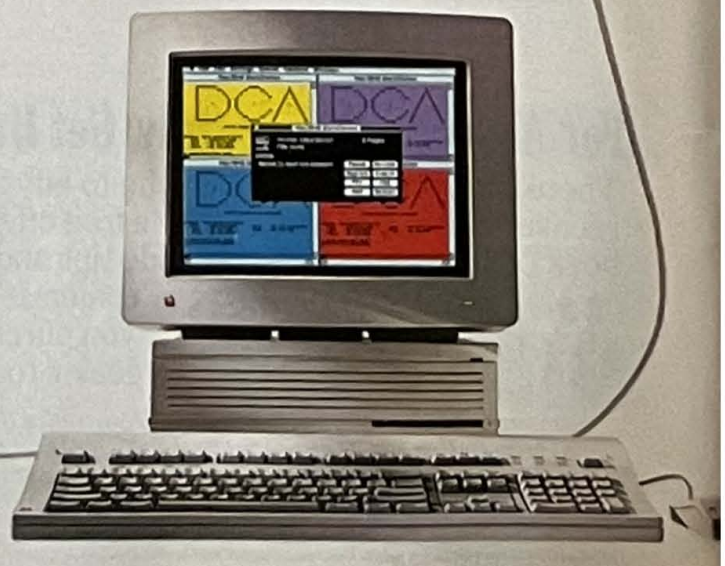

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Full Impact 2.0 ships at reduced price

By Henry Norr

Torrance, Calif. — Ashton-Tate Corp. this month released Full Impact 2.0, a major upgrade to its Mac spreadsheet software, and cut the program's price from $395 to $295.

Key enhancements to the program, which lets users combine spreadsheet analysis, text and presentation graphics on one worksheet, include import and export of data in Excel 1.5 and 2.2 formats; 3-D graphs, which can be manipulated with the mouse; several new chart and border types; and intelligent recalculation, a technique for cutting recalculation times by recalculating only cells whose values have changed.

Full Impact offers a variety of ways for users to customize the program for their needs: a macro recorder; a user-configurable icon bar; a utility that can install additional specialized functions; and Full Talk, an extensive application-development language. In Version 2.0, any object on the worksheet can be a button that will activate a macro.

Upgrades for registered owners of Version 1.1 are $50.

Ashton-Tate Corp. is located at 20101 Hamilton Ave., Torrance, Calif. 90509; (213) 329-8000. □

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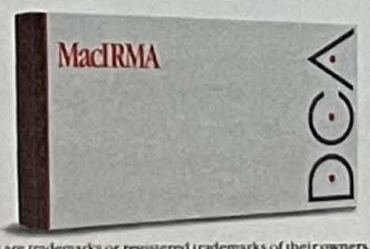

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MaraThon to include Virtual, SAM and SUM

Wilmington, N.C. — Dove Computer Corp. last week announced that Connectix Corp.'s Virtual software will join Symantec Corp.'s SAM 2.0 and SUM II on the list of utilities bundled with Dove's line of $699 MaraThon 030 upgrade boards for the Mac Plus, SE and II.

With the 68030-based boards installed, the Connectix software will give Plus and SE owners the equivalent of 16 Mbytes of system RAM by using hard disk space as virtual memory. For Mac II owners, the program increases available memory to as much as 14 Mbytes, depending on the number of NuBus cards installed.

The Plus and SE versions of the MaraThon 030 incorporate a 16-MHz processor, while the Mac II model uses a 68030 running at 32 MHz. Boards bundled with Virtual will begin shipping in mid-August.

Dove Computer Corp. is at 1200 N. 23rd St., Wilmington, N.C. 28405; (919) 763-7918; (800) 622-7627. □

Bigger Rodime Cobra for six-slot Mac

Boca Raton, Fla. — Rodime Systems Inc. this month introduced the Cobra 330i, a new 330-Mbyte internal drive for the Mac II, IIx and IIfx.

The 5.25-inch, half-height drive is rated at an average access time of 14.5 milliseconds with a transfer rate of 1.25 Mbytes per second. A 45-Kbyte buffer for look-ahead caching, or reading the next data that a user is expected to need even before it is requested, further boosts performance.

The $3,799 drive is A/UX-compatible, according to Rodime. It comes with a one-year warranty, a utility that provides SCSI partitioning and password protection, and a bundled copy of Fifth Generation Systems Inc.'s FastBack II backup software.

Rodime Systems Inc. is located at 901 Broken Sound Parkway N.W., Boca Raton, Fla. 33487; (407) 994-5585. □

QMConcierge forwards mail; Unix link added

Ithaca, N.Y. — Information Electronics recently shipped two new gateways that extend the functionality of CE Software Inc.'s QuickMail electronic-mail package.

▶ QMConcierge, which sells for $199 per server, adds unattended mail forwarding to QuickMail's capabilities. Although not technically a gateway, QMConcierge is installed on the QuickMail server like one. It can reroute mail addressed to any user on the network, send automatic replies saying a user is out of town and delete mail after it has been forwarded.

▶ UMCP\QM, which also sells for $199 per server, bridges to the Unix UUCP (Unix to Unix Copy) communications protocol. It lets QuickMail and Unix users exchange mail and binary files transparently.

Information Electronics is located at 15 Catherwood Road, No. 8, Suite 178, Ithaca, N.Y. 14850; (607) 257-5840. □

Digital Darkroom 2.0 brings Turnerizing to Mac

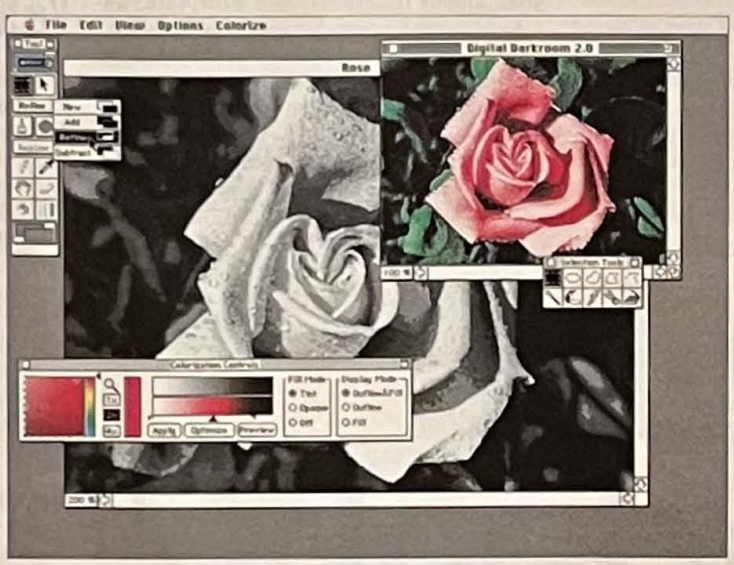
Color overlays highlight update

By Connie Guglielmo

San Diego — Silicon Beach Software last week announced a new version of its Digital Darkroom gray-scale image-processing program that adds six new features, including the capability to get rid of the gray.

With Version 2.0 of the $395 image-processing program, due later this quarter, users can:

- Colorize images using color overlays. The colorized images can be saved as 24- and 32-bit color TIFF and PICT files.
- Transform images interactively in real time. Users can change the perspective of all or part of an image, as well as scale, rotate, stretch, distort and slant.
- Paste, blend, feather and dissolve selections into an entire document or merge the selections within user-defined gray values.
- Modify images using custom one- and eight-bit brushes and masks.
- Lay out images precisely with rulers and full-document cross hairs. Version 2.0 gives numerical readouts for the cursor location, dimensions of a selection and the angle of rotation.
- Calibrate printers and scanners and save the calibration settings.



Version 2.0 of Digital Darkroom, Silicon Beach Software's gray-scale image-processing program, lets users get rid of the gray by applying full-color overlays. The colorized images can be saved as 24- and 32-bit color TIFF and PICT files. The new version is due this quarter.

Registered owners of Version 1.0 or 1.1 can upgrade for $75. Anyone who purchases Version 1.1 after Aug. 1 will receive a free upgrade after mailing in the registration card and dated proof of purchase.

Silicon Beach Software is located at 9770 Carroll Center Road, Suite J, San Diego, Calif. 92126; (619) 695-6956. □

Fifth Generation acquires rights to SuperMac spoolers, DiskTools DAs

By Henry Norr

Baton Rouge, La. — Fifth Generation Systems Inc. went on a utility shopping spree last month, acquiring publishing rights to two popular print spoolers, SuperSpool and SuperLaserSpool from SuperMac Technology, and to DiskTools, a desk accessory package developed by RainMaker Software.

DiskTools will be combined with Fifth Generation's PowerStation button-based file-launching application in a new $129 package called FileDirector, which is scheduled for release next month.

Written by Evan Gross and previously published as Disk Tools Plus by Electronic Arts of San Mateo, Calif., DiskTools consists of several DAs. The main module, the DiskTools DA, lets users locate, copy, move and delete files at any time without returning to the Finder. Version 3.0, a new release that will be incorporated into FileDirector, will offer a much enhanced Find function and a Mark command that lets users manipulate groups of files simultaneously even if they are located in different folders.

Enhanced versions of other DAs that were part of Disk Tools Plus, including the Phone Pad and Calendar accessories and scientific and reverse-Polish-notation calculators, also will be part of FileDirector.

Registered owners of PowerStation or DiskTools may upgrade for $40. PowerStation was previously $59.95, while Disk Tools Plus was $49.95.

SuperSpool, designed for ImageWriters and priced at $99.95, and SuperLaserSpool, a $149.95 utility that works with all Apple printers and Hewlett-Packard Co.'s DeskWriter, will be supported by SuperMac until mid-September.

Mike McConnell, SuperMac's president and chief operating officer, said the sale of the spoolers "will help us focus our resources on our core business — color graphics." He said the company plans to acquire and publish additional software products in that category.

Fifth Generation Systems Inc. is located at 10049 N. Reiger Road, Baton Rouge, La. 70809; (504) 291-7221; (800) 873-4384. □

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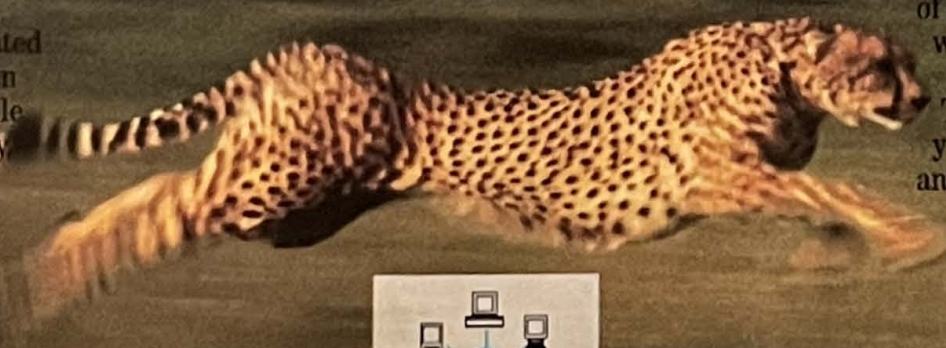


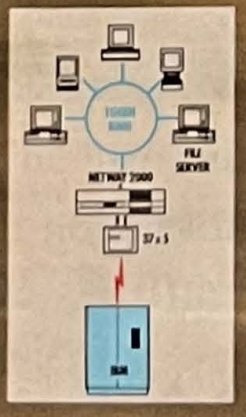
It's a jungle out there.

That's why Tri-Data created the fastest Macintosh Token Ring LAN adapters available. The LanWay TR 16/4 Family.

The Family consists of two adapters: one NuBus card that fits any Macintosh II family member and one for the SE/30. They are compatible with Apple's TokenTalk standard as well as all AppleTalk services, such as Apple's Internet Router, E-Mail, and File Sharing via AppleShare, Novell, TOPS, and 3COM.

Equipped with the new Texas Instruments TMS380C16 Token Ring processor, the LanWay adapters are capable of both 16 Mbps and 4 Mbps operations in a single adapter.

The adapters are *software* switchable between the two speeds, combining ease of installation with flexible options depending on network need.



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The freedom to write and think is for all of us. Now, there is a new word processor that's just right for us, too. It's called MacWrite® II, and it's made by Claris. MacWrite II makes it possible to share your ideas and thoughts with other computers and word processors. You'll be free to open documents from over 50 word processors, on all kinds of computers, with all kinds of speech, and work on them without reformatting.

But there's more you can do. (The feature is called XTND.) You can import graphics, not only from Macs, but many computers, guaranteed. And you can scale and crop them, one and all, in your MacWrite II document. In short, MacWrite II with XTND is a powerful word processor that lets you freely exchange text and graphics. You'll find also that your MacWrite II lets you change fonts, styles, sizes and colors, as well as text with its find/change feature. And you can create custom styles and save them as stationery — with all formats preset. You'll share your reports and letters quickly.

But what good is freedom of expression if you find your editing to be a hassle? That's why the page layout and editing is fully WYSIWYG: the thoughts you see are the thoughts you get. This WYSIWYG feature, by the way, is found only with MacWriteII. It's another way Claris simplifies word processing for you, whether you're 52, 22, or 72.

Called upon daily MacWrite II smooths your writing assignments and other chores. There's MacWrite II spell checking, for example, and foreign dictionary programs that are optional, and a host of other features that come standard. (Like a thesaurus, and a mail merge feature you'll discover saves lots of time.)

What it adds up to, you'll find, is a simple and powerful tool designed for people. All the people. It is for writers, and it is for business people. And it is for those of us in between. The freedom to write is liberating. Now technology is, too.

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For more information about MacWrite II or XTND and a free demo diskette call 1-800-729-2292, ext. 100. ©1990 Claris Corporation. All rights reserved. Claris and MacWrite are registered trademarks of Claris Corporation. Some XTND translators are optional. They are supported within MacWrite II 1.1 when you buy and install MacLinkPlus from Data Viz, Inc.

Chinon to unveil low-cost scanner

By Pamela Pfiffner

Torrance, Calif. — Chinon America Inc. will unveil a new color scanner priced at less than $1,000 at next week's Macworld Expo in Boston.

The new DS-3000 is a 12-bit color overhead scanner that can capture 4,096 colors or 256 gray levels. Final pricing has not been set yet, but the product is expected to ship in October.

The scan bed accepts letter-size images, but the overhead configuration also lets the unit scan in 3-D objects. The DS-3000 uses reflected ambient light; no additional light source beyond normal room lighting is required, the company said.

Scanner resolution is adjustable between 75 and 300 dpi. Files can be saved in MacPaint, TIFF, compressed TIFF, and plain and dithered PICT formats.

The DS-3000 will ship with a SCSI interface adapter and cable, as well as basic scanning software. It is compatible with all Macintoshes, according to the company.

Chinon America Inc.'s Information Equipment Division is located at 660 Maple Ave., Torrance, Calif. 90503; (213) 553-0274. □

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Macreations tweaks Tycho Table Tools

Pacifica, Calif. — Macreations Publishing Corp. this month released Version 1.1 of Tycho Table Tools, its $149.95 application for creating, formatting and printing tabular data.

The new release, available free to registered owners, fixes a few bugs, makes improvements to the program's user interface and adds several new features, including:

- A new Page Preview mode that allows margins and page breaks to be adjusted on the preview screen.
- Improved printing speeds for large tables.
- Several new pagination options for large tables, including repeating headers and spreads.
- Centimeter measurements and 0.25- (hairline) and 0.5-point line widths.

According to sources close to Ashton-Tate Corp., that company will bundle Tycho with Version 1.5 of FullWrite Professional, a forthcoming upgrade to its word processing program.

Macreations Publishing Corp. is located at 329 Horizon Way, Pacifica, Calif. 94044; (415) 359-7649. □

La Cie adds ZFP Plus series to drive line

Tualatin, Ore. — La Cie Ltd. last month added a new series of high-capacity external models to its hard drive line.

Called the ZFP Plus, the drives incorporate Seagate Imprimis mechanisms packaged to fit under a compact Mac. The new group includes 300- and 400-Mbyte half-height models priced at $1,699 and $1,799, respectively, and 600-, 650- and 1,000-Mbyte full-height units at $2,199, $2,799 and $4,299, respectively. All carry a two-year warranty.

La Cie also incorporated its 650-Mbyte external, with a Hewlett-Packard mechanism, into the ZFP Plus line and cut its price to $2,699, including a five-year warranty. The drives are shipped with Silverlining, La Cie's popular disk-formatting and utility package, and 5 Mbytes of publicly distributed software.

La Cie Ltd. is located at 19552 S.W. 90th Court, Tualatin, Ore. 97062; (503) 691-0771; (800) 999-0143. □

Ceres offers Inspiration at a new, lower price

Portland, Ore. — Ceres Software Inc. is celebrating the upcoming first birthday of Inspiration 2.0, its "thought processor," by cutting the program's price from $249 to $199.

Designed for brainstorming, planning and organizing, Inspiration lets users enter and arrange ideas in either a free-form diagram view, offering a variety of on-screen symbols that can be linked and dragged, or a full-featured text outliner. Users can switch easily between the two views, and changes in one are automatically incorporated in the other.

Version 2.0.2, released in April, added support for kanji.

Ceres Software Inc. is located at 2520 S.W. Hamilton St., Portland, Ore. 97201; (503) 245-9011. □

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Apple chose Meridian's CD Professional,® a system that would allow them to prepare one-off discs prior to final mastering. HyperCard stacks. Multimedia presentations. Even Apple's own A/UX software that once required 20 floppies could now be distributed on a single CD ROM – more cost effectively than ever before.

And the cost of in-house CD ROM development continues to drop – dramatically. With Meridian's new desktop VR Publisher™ and VR Professional,™ you can simulate HyperCard stacks, database files or multimedia presentations in a CD ROM environment, record the data directly onto a one-off disc; or, output DAT or Exabyte tapes in preparation for final mastering.

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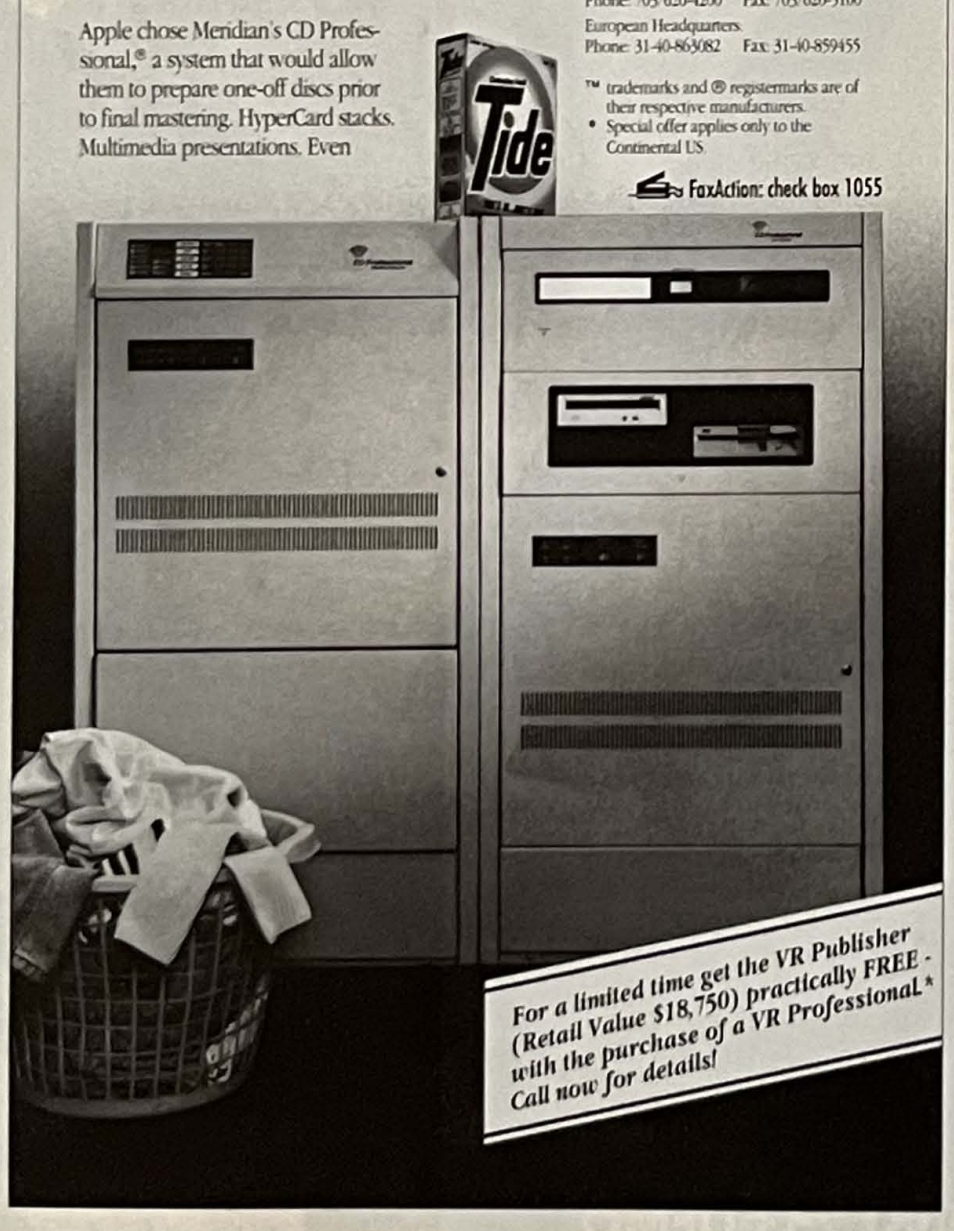
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RAM-expansion options for Mac Portable

Company	Product	RAM amount	RAM type	Price range	Expansion	Slot	Trade-in Apple card?
DayStar	RAM Lite	2-4 MB	SRAM	$1,395-$2,495	Return to factory	RAM	No
Columbus	Lifetime	3 MB	SRAM	$1,495	No	RAM	$150
CDCE	MacPortaMem	2 MB/4 MB	p-SRAM	$949/$1,798	User	PDS	N/A
Pinnacle	LXPi	2-8 MB	p-SRAM	$695-$2,780	User	PDS	N/A
Newer	Mac Portable Card	2-8 MB	DRAM	$695-$2,075	User	RAM	No
Shadow	PortaRam	1-8 MB	p-SRAM	$695-$3,460	User	RAM	No
Benchmark	Travel'n MemChips	2-4 MB	p-SRAM	$849-$1,399	Return to factory	RAM	$250
Siclone	RAM-TO-GO	2-4 MB	p-SRAM	$1,199-$1,999	Return to factory	RAM	No
Tech Works	Super Static	1 MB/3 MB	SRAM	$349/$1,195	No	RAM	$250
Apple	static card	1 MB	SRAM	$499	No	RAM	N/A

Mac Portable RAM prices plummet ...

By Raines Cohen

San Francisco — Whether it's a trickle-down effect of Apple's Mac Portable price cuts this spring or an attempt to stimulate hitherto sluggish sales, prices are dropping on a wide variety of RAM-expansion options for Apple's only battery-powered machine.

▶ Technology Works Inc. this month lowered the price of its Super Static 1 card, which gives the Portable an additional megabyte of static RAM, from $395 to $349. The company also is offering a $250 rebate for trade-in of Apple's 1-Mbyte card for purchasers of its $1,195 Super Static 3 card.

▶ Columbus International last month announced a discount on its 3-Mbyte Lifetime Memory Products Portable RAM card, shipping since April. The SRAM-based add-on, previously $2,295, is now $1,495.

Technology Works and Columbus, like Apple, use real SRAM chips. Apple's 1-Mbyte expansion card is now priced at $499.

Most other third-party vendors, in contrast, use pseudo-static RAM. Prices for that technology also have been declining:

▶ Pinnacle Sales International Inc. this week lowered the price on its 2- to 8-Mbyte LXPi card for the Portable's Processor Direct Slot by up to 40 percent. The user-expandable card now costs $695 for every 2 Mbytes.

▶ Siclone Sales & Engineering Corp. last month slashed prices and reduced power drain on its RAM-TO-GO upgrades for the Portable (see MacWEEK, July 10). Prices now range from $1,199 for 2 Mbytes to $1,999 for 4 Mbytes.

▶ Benchmark Labs Inc. cut prices on its Travel'n MemChips card by up to 60 percent earlier this month. Prices now range from $849 for 2 Mbytes to $1,399 for 4 Mbytes.

Technology Works Inc. is at 4030 Braker Lane W., Suite 350, Austin, Texas 78759; (512) 794-8533; (800) 688-7466. Columbus International is at 305 17th St., Huntington Beach, Calif. 92648; (714) 969-2421; (800) 233-6233 outside California. Pinnacle Sales International Inc. is at 2005 Hamilton Ave., Suite 220, San Jose, Calif. 95125; (408) 559-8544; (800) 622-1722. Benchmark Labs Inc. is at 6278 N. Federal Highway, Suite 388, Fort Lauderdale, Fla. 33308; (305) 771-9759; (800) 628-4726. Siclone Sales & Engineering Corp. is at 107 Bonaventura Drive, San Jose, Calif. 95134; (408) 456-5060; (800) 767-8207. □

... but vendors still flocking to the race

Wichita, Kan. — While several established Mac Portable memory vendors cut their prices, others have moved in to offer their own approaches to memory expansion.

▶ Newer Technology this month announced the user-configurable Mac Portable Card, which can accommodate 2 to 8 Mbytes of socketed 80-nanosecond dynamic RAM.

The Newer card apparently is unique in its use of DRAM in the Portable. Apple uses true static RAM chips both on the Portable's motherboard and on its 1-Mbyte expansion card. Most third-party cards use pseudo-static RAM. Representatives of companies offering Portable products said they have avoided DRAM, fearing it would reduce battery life.

But Roger Kasten, marketing manager for Newer Technology, said his company's low-power design avoids any excessive burden on operating battery life. He said, however, that sleep time is reduced to days, rather than the months or longer of sleep time possible with SRAM and pseudo-static RAM cards.

Newer's Mac Portable Card sells for $795 to $2,225. The 6- and 8-Mbyte configurations will include a coupon good for a free Mac Portable battery, the company said.

▶ Shadow Technologies last month began shipping PortaRAM, its pseudo-static RAM card that can be upgraded by users. The card accommodates up to four daughterboards, each containing 1 or 2 Mbytes of RAM, for 1 to 8 Mbytes in all. Configured with 1 Mbyte, the card sells for $695; each additional megabyte is $395.

▶ DayStar Digital Inc. last month began shipping RAM Lite, a configurable 2- to 4-Mbyte SRAM card. The card sells for $1,395 to $2,495, and the company offers trade-in upgrades between models.

▶ CDCE Inc. last month announced a user-expandable 2- or 4-Mbyte card, the MacPortaMem, at $949 and $1,798.

While most memory cards for the Mac Portable go into the machine's designated RAM expansion slot, CDCE's, like Pinnacle Sales International's LXPi, fits in the separate Processor Direct Slot and requires users to set a switch to indicate whether another RAM card is present in the RAM slot. MacPortaMem can coexist with up to 3 Mbytes in the RAM slot, while PSI's LXPi can only tolerate Apple's 1-Mbyte card there.

Newer Technology is at 7803 E. Osei St., Suite 105, Wichita, Kan. 67207; (316) 685-4904; (800) 678-3726. Shadow Technologies is at 1767 Morning Glory Road, Livermore, Calif. 94550; (415) 548-0130. DayStar Digital Inc. is at 5556 Atlanta Highway, Flowery Branch, Ga. 30136; (404) 967-2077. CDCE Inc. is at 2992-D E. La Palma, Anaheim, Calif. 92806; (714) 630-4633. — *By Raines Cohen*

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09. Education
10. Finance: Banking, Accounting, Insurance, Real Estate
11. Health, Medical, Legal
12. Non-Computer Retailer, Wholesaler, Distributor
13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

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J. Education/Training
K. Science
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4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

☐ Yes ☐ No (Write in accurate quantity for all that apply):

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Macintosh IIcx/Macintosh IIx	2		
Macintosh IIci	3		
Macintosh II	4		
Macintosh SE/30	5		
Macintosh SE	6		
Macintosh Portable	7		
Macintosh Plus	8		
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IBM/Compatible Micro	10		
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C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
☐ D. Not Applicable

6 Please check the Mainframe(s) or Minicomputer(s) at your location:

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☐ Yes (If yes, please check all that apply): ☐ No

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☐ 01. Macintoshes
☐ 02. Workstations
☐ 03. Minis, Mainframes

Connectivity
☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communications Software

Peripheral Equipment
☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 25. Plotter, Charting Devices
☐ 26. Scanners

Add-In Boards
☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 42. MS DOS Boards
☐ 43. Ethernet Boards

Software
☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 58. Music
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?

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01. 500+
02. 100-499
03. 50-99
04. 20-49
05. 10-19
06. 4-9
07. 1-3
09. None

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(Check all that apply.)
☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
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☐ 05. Voice/Data
☐ 09. Other (please specify) _____

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Tech Works gets line on Ethernet

By Margie Wylie

Austin, Texas — Looking to repeat its success in the memory market, Technology Works Inc. last week charged into the connectivity business with two new Ethernet products.

▶ Now shipping for $399, the EtherWorks II NuBus network interface card installs in any Mac II and connects to thick or thin Ethernet cabling. EtherWorks II/10T, due Aug. 31 at the same price, will work with 10BASE-T twisted-pair networks.

▶ EtherWorks SCSI, like other external Ethernet devices, lets any Mac connect to an Ethernet network without an internal card. Users simply plug the $499 box into the SCSI port, then attach it to the network. EtherWorks SCSI supports SynOptics Communications Inc.'s unshielded twisted pair and thick and thin Ethernet cabling. Support for 10BASE-T unshielded twisted pair is due by Aug. 31.

"We intend to do a lot more in the connectivity arena," said Mike Frost, Technology Works president. He said the company will offer software and management products but declined to discuss details.

Technology Works Inc. is located at 4030 Barker Lane W., Suite 350, Austin, Texas 78759; (512) 794-8533. □

Mirus FilmPrinter gets new zip, Lasergraphics adds network sharing

By Pamela Pfiffner

San Francisco — Desktop slide-maker manufacturers Mirus Corp. and Lasergraphics Inc. are shipping products they hope will give them an edge in the growing presentation graphics market.

▶ **Mirus FilmPrinter Turbo.** Mirus describes its new FilmPrinter Turbo as the fastest slide maker on the market.

The FilmPrinter Turbo can image an average business slide in less than two minutes and 36 exposures in about an hour, Mirus said. With the recommended 200 ASA film, imaging time ranges from one to four minutes per slide.

The FilmPrinter Turbo is priced at $7,995, and the Mac driver is an additional $395. It captures color images at 36 bits per pixel, which Mirus said produces color 16 times more accurately than 24-bit color recorders.

Like its earlier FilmPrinter Plus, the new Turbo model supports both Macs and IBM PCs and compatibles, and can be connected simultaneously to both platforms through its SCSI and parallel ports. A toggle switch lets users select computers. To add a second platform, users must purchase additional Mac, DOS or Windows MirusImage drivers, priced at $395 each.

MirusImage includes 13 scalable outline fonts and supports image preview. Its MirusPrint feature lets users set up batch printing for overnight imaging.

▶ **Lasergraphics MacRascolServer.** Lasergraphics this month released software that can give Mac users over AppleTalk networks access to the company's LFR and LFR Plus film recorders, as well as to color printers driven by its Mac Rascol Print controller.

The new MacRascolServer software package runs on a networked Mac designated as a server and connected to one of the film recorders via the SCSI port. When MacRascol users anywhere on the network print an image via Lasergraphics' Chooser-selectable driver, MacRascol processes the image locally (in the background under MultiFinder), then sends it to the server for output.

MacRascolServe with AppleTalk is available now for $995. Existing LFR and LFR Plus units need a firmware upgrade to use the new software; it is available for $200, but only to units still under warranty.

Configured for the Mac, the LFR film recorder, with 24-bit color and a resolution of 2,000 or 4,000 lines, is priced at $8,750. The LFR Plus, which offers 33-bit color, is $13,750. The Mac Rascol Print controller, which connects to the Mac via the SCSI port and to a variety of color printers via a Centronics parallel port, is $1,995.

Lasergraphics this month also announced Version 2.0 of MacRascol, the core software for the LFR, LFR Plus and Mac Rascol Print. The new version can drive Mitsubishi and Shinko printers, in addition to previously supported printers from Lasergraphics itself, Hewlett-Packard Co., CalComp Inc., Panasonic, Seiko and Eastman Kodak Co. The upgrade is free to registered owners whose units are under warranty; for others, the upgrade is $20.

Mirus Corp. is located at 758 Sycamore Drive, Milpitas, Calif. 95035; (408) 944-9770; (800) 654-0808.

Lasergraphics Inc. is located at 20 Ada, Irvine, Calif. 92718; (714) 727-2651. □

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Preferred revives Cricket paint programs

Memphis, long noted as a mecca for rhythm and blues, is now on the road to becoming a center for the reds, greens and blues of Mac color painting as well.

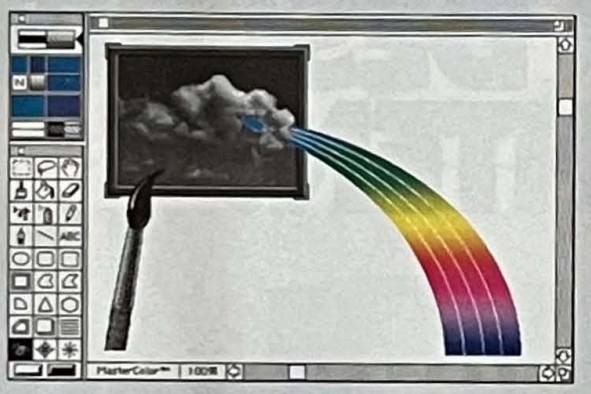
Just weeks after another Memphis-based company, Baseline Publishing, acquired marketing rights to Color MacCheese, a popular low-cost paint program (see related story, this page), Preferred Publishers announced that it has acquired the applications previously known as CricketPaint and Cricket Color Paint. The programs had been owned but not actively promoted by Computer Associates Inc. of Garden City, N.J., the software giant that took over Cricket Software last year.

Preferred this week will release an enhanced version of the monochrome program, renamed MasterPaint. It will be priced at $99.95, half the original's price. The color program will be called MasterColor and priced at $199.95, $100 less than its predecessor.

In addition to standard paint options, both programs offer some unusual features, such as the capability to make any screen region into a tool and the capability to use drawing tools to create objects quickly, then convert them to bit maps for pixel-level editing.

Preferred said it has enhanced both programs to make them compatible with current system software, 32-bit Color QuickDraw, Adobe Type Manager and leading color printers. Several new features, including a border tool and an option to reverse foreground and background colors, also have been added.

Existing CricketPaint and Cricket Color Paint owners may receive free support from Preferred effective immediately. Registered CricketPaint owners may upgrade to MasterPaint for $29 or to MasterColor for $49. — *By Henry Norr*



Preferred Publishers last month acquired Cricket Color Paint, renamed it MasterColor, cut its price to $199.95 and added several new features.

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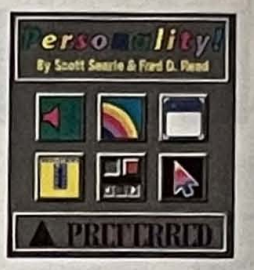
Orange Micro also makes the *Mac286*™ MS-DOS coprocessor for the Mac.

Double Talk, Personality! highlight Preferred's summer utility lineup

By Henry Norr

Memphis, Tenn. — Preferred Publishers Inc. has been uncharacteristically quiet since its divorce from Aapps Corp. in March, but this week the company will step back into the limelight with the release of a slew of new software products.

All the new products will be on sale at next week's Macworld Expo in Boston, Preferred said.



Personality!, a Control Panel device that is finally ready a year after its announcement, will let users customize the sights and sounds of the Macintosh desktop.

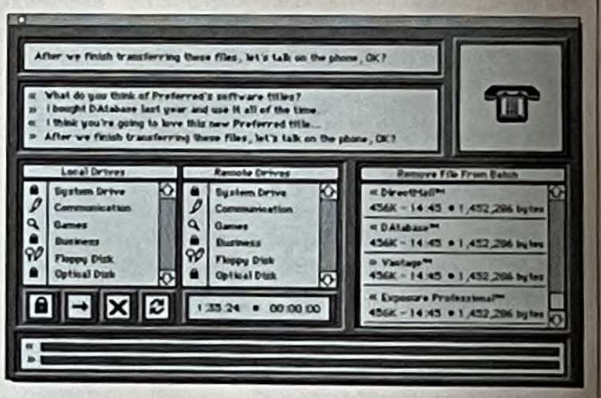
Two of them are enhanced and renamed versions of products previously available to Macintosh users (see related story at left). But the others are Preferred originals.

▸ **Double Talk.** Topping the list is Double Talk, an innovative dual-mode telecommunications package. The program provides a full set of standard terminal-emulation features, including an extensive scripting language, for communicating with bulletin boards and users running other software.

But for communicating with other Macs running Double Talk, the program incorporates a proprietary protocol that automatically configures both modems to the highest common denominator. It also lets users simultaneously transfer multiple files and at the same time converse via the keyboard. Users with the appropriate access privileges (read, write or both) can select files on each other's drives for downloading.

Batches of files can be queued for designated callers, who can then dial in and download the specified files even if the host is unattended.

One unique feature of Double Talk is that its proprietary protocol can resume and complete a file transfer broken off earlier in the same session or even during a different session without retransmitting data already sent.


After we finish transferring these files, let's talk on the phone, OK?
What do you think of Preferred's software titles?
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In addition to standard telecommunications capabilities, Preferred Publishers' Double Talk will let users prepare batches of files that can be downloaded by an authorized user even when the host Macintosh is unattended. Users also can "chat" as files are transferred.

Double Talk will be priced at $149.95 for a single copy and $249.95 for a double package.

▸ **Personality!** A year ago Preferred announced Personality!, a utility package that would let users customize their Macintosh's sounds, colors, menus, cursors, buttons and windows (see MacWEEK, Aug. 8, 1989). The software, then under development by Aapps' Russ Wetmore and due out last fall, was repeatedly delayed, but has now been rewritten, enhanced and completed by a pair of noted utility programmers, Scott Searle and Fred Reed, developers of ICOM Simulations Inc.'s forthcoming On Cue II.

Instead of six separate Control Panel device (cdev) files, the new $99 Personality! is a single cdev. Unique options include asynchronous sound and 3-D menus.

▸ **Exposure Pro and Screenshot.** Replacing Exposure, its feature-rich screen-capture and color-paint utility, Preferred will now offer two choices.

Exposure Pro, at $139.95, will provide full compatibility with 32-bit color; color-printing support; an option to have the "ears" that mar Macintosh screen dumps automatically removed; an InfoStamp feature for attaching data about time, date and program to a dump; and a new tool that will let users turn selected regions of the screen into Macintosh resources, such as windows, dialogs and icons.

A new $69.95 utility called Screenshot, on the other hand, is targeted at users who need screen-capturing capability without on-the-spot editing. Features include the capability to name the file and select from a variety of file types, optional isolation of a single window, and printing of regions or whole screens.

Preferred Publishers Inc. recently moved to 1770 Moriah Woods Blvd., Suite 14, Memphis, Tenn. 38117; (901) 683-3383. □

Baseline acquires rights to market Color MacCheese

Memphis, Tenn. — Baseline Publishing Inc. this month announced that it has acquired marketing rights to Color MacCheese, the low-cost 32-bit color paint program developed by Delta Tao Software Inc. of Sunnyvale, Calif.

Delta Tao created a stir when it introduced the $99.95 program in March, because it offered many of the capabilities of high-end paint programs at a fraction of their price. Baseline, which recently launched an inexpensive software line called MacPAKS (see MacWEEK, June 5), said it will keep the program's price but will add an entirely new manual, a quick reference card and several enhancements.

Baseline also said it will offer a special show price at its booth at next week's Macworld Expo in Boston. At the April expo in San Francisco, Delta Tao did a brisk business selling the program at $49.95.

Baseline Publishing Inc. is located at 5100 Poplar Ave., Suite 527, Memphis, Tenn. 38137; (901) 682-9676. □

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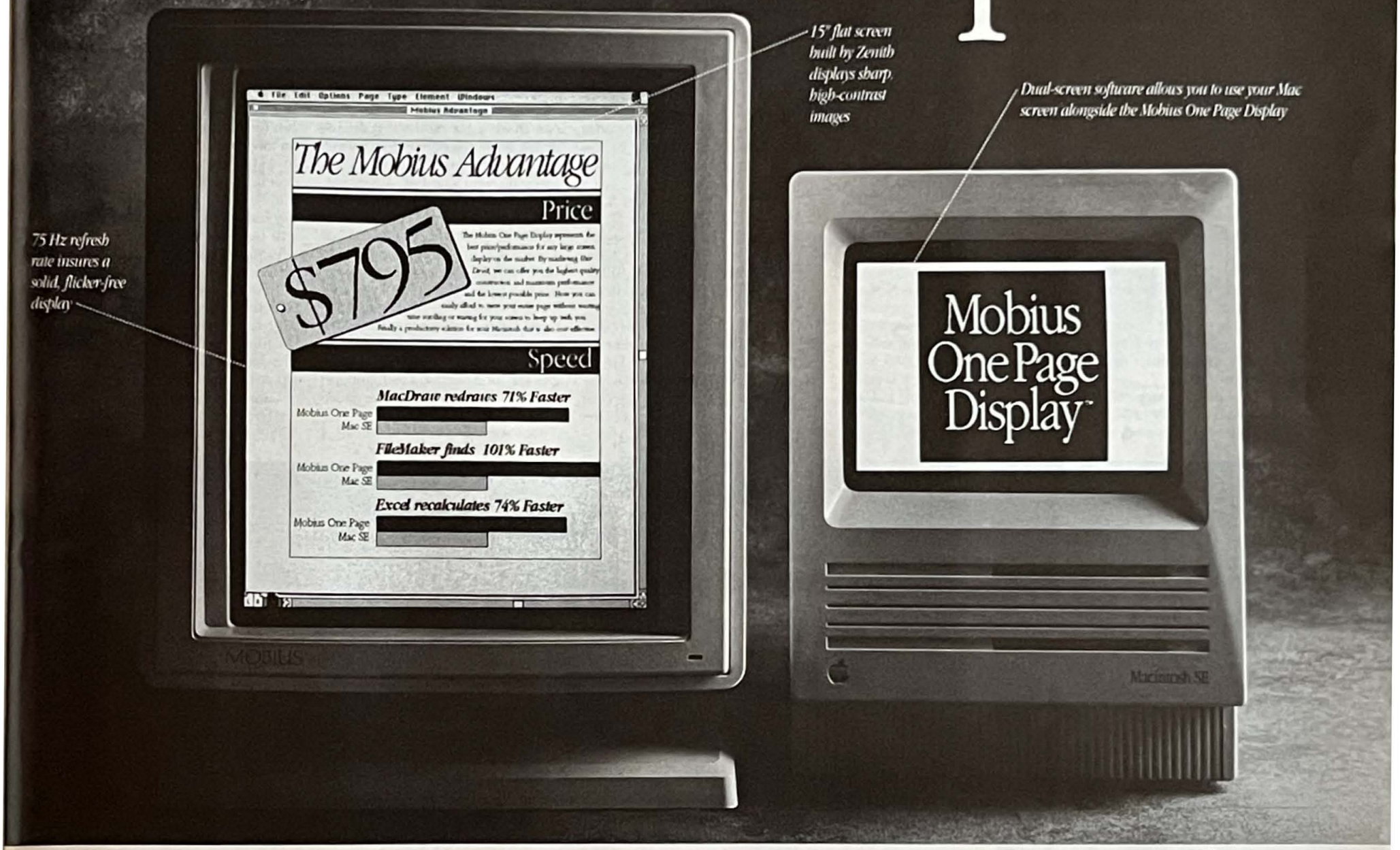
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Tide of fax/data modems for the Mac still surging

By Carolyn Said

San Francisco — The fax modem market seems to be attracting manufacturers as quickly as a honey jar attracts flies. Five new fax/data modems for the Mac have shipped or been announced within the past month, offering users varying combinations of features at a spectrum of prices.

▸ **Best Data Products Inc.** recently shipped the $299 Smart One Traveler, a 2,400-bps battery-operated portable pocket modem with 4,800-bps send-fax capability. It can send multiple faxes to multiple destinations and offers special fax-mail merge features for form letters and fax broadcasting.

▸ **Computer Peripherals Inc.'s** $349 ViVa24fx/Modem, a 2,400-bps data modem with send-fax capability, is available now. Like the company's ViVa data modems, the new model has a space-saving "tower" design and displays small icons that illuminate when active, rather than the traditional red LEDs.

▸ **Dove Computer Corp.** will show the DoveFax Plus, which combines a 2,400-bps data modem, a 9,600-bps fax modem and voice-mail capabilities, at next week's Macworld Expo in Boston. Due in September, the $599 product will allow background reception of voice or fax messages, answering of unattended telephone lines, playback of customized voice messages and recording of incoming voice messages. Owners of the $399 DoveFax Desktop fax/data modem, which shipped in April, can add voice-mail capabilities for $149.

Dove also said it has sent customers a software fix for a problem that prevented some users from receiving faxes with Version 1.02.

▸ **Global Village Communications Inc.** shipped its TelePort Macintosh Apple Desktop Bus modem, which distinguishes itself by plugging directly into the Mac ADB. Offering Microcom Network Protocol Level 4 error correction and MNP Level 5 data compression, the 2,400-bps data modem sells for $225. For an additional $60, users can upgrade to 4,800-bps send-fax capability beginning Sept. 1. Users who purchase before Aug. 15 will receive the send-fax upgrade free.

New fax/data modems

Modem	Company	Speed	Other features	Price
Smart One Traveler	Best Data Products Inc.	Data: 2,400 bps Fax: 4,800 bps send fax	Pocket modem runs on batteries	$299
ViVa24fx/Modem	Computer Peripherals Inc.	Data: 2,400 bps Fax: 4,800 bps send fax,	"Tower" setup saves desktop space	$349
DoveFax Plus	Dove Computer Corp.	Data: 2,400 bps Fax: 9,600 bps	Voice-mail capabilities	$599
Teleport	Global Village Communications	Data: 2,400 bps Fax: For $60, users can upgrade to 4,800-bps send fax, available Sept. 1	Connects via Apple Desktop Bus	$225
ProModem Maxfax	Prometheus Products Inc.	Data: 2,400 bps Fax: 9,600 bps	Includes Macknowledge communications software	$449

▸ **Prometheus Products Inc.** plans to next month ship its ProModem Maxfax, a 2,400-bps data modem with 9,600-bps fax send and receive capabilities. Priced at $449, the external Maxfax includes Prometheus' Macknowledge communications software, Maxfax software and a Mac cable.

Best Data Products is at 9304 Deering Ave., Chatsworth, Calif. 91311; (818) 773-9600. Computer Peripherals is at 667 Rancho Conejo Blvd., Newbury Park, Calif. 91320; (800) 854-7600. Dove Computer is at 1200 N. 23rd St., Wilmington, N.C. 28405; (919) 763-7918; (800) 622-7627. Global Village Communications is at 1204 O'Brien Drive, Menlo Park, Calif. 94025; (415) 329-0700. Prometheus Products is at 7225 S.W. Bonita Road, Tigard, Ore. 97223; (503) 624-0571. □

Zap Fax puts fax modems on the network

By Carolyn Said

Campbell, Calif. — Mac LANs can share a fax modem, reducing demands on telephone lines as well as saving the cost of multiple fax modems, with Zap Fax, a new network fax-server software package from Sunrise Services.

Due to ship at next week's Macworld Expo in Boston, Zap Fax will work with fax modems from Apple; Abaton, a subsidiary of Fremont, Calif.-based Everex Systems Inc.; Circuit Research Corp. of Nashua, N.H.; Prometheus Products Inc. of Tigard, Ore.; and Orchid Technologies Inc. of Fremont, Calif. Support for other fax modems may be added in the future, Sunrise said.

One version of Zap Fax, priced at $295, will require a dedicated Mac. But a version called Zap Fax & Back can function as a background server on any networked Mac; the company said interference with foreground operations would be minimal, especially on Mac II-class machines. The background version will be priced at $795, but users who purchase Zap Fax & Back by Aug. 31 will receive a $400 rebate.

Both versions include a Chooser-selectable driver that prompts the user for a phone number when a document is printed, then sends the document as a PICT file over AppleTalk to the Zap Fax server.

Sunrise Services is at 705 W. Valley Drive, Suite 1, Campbell, Calif. 95008; (408) 377-3753. □

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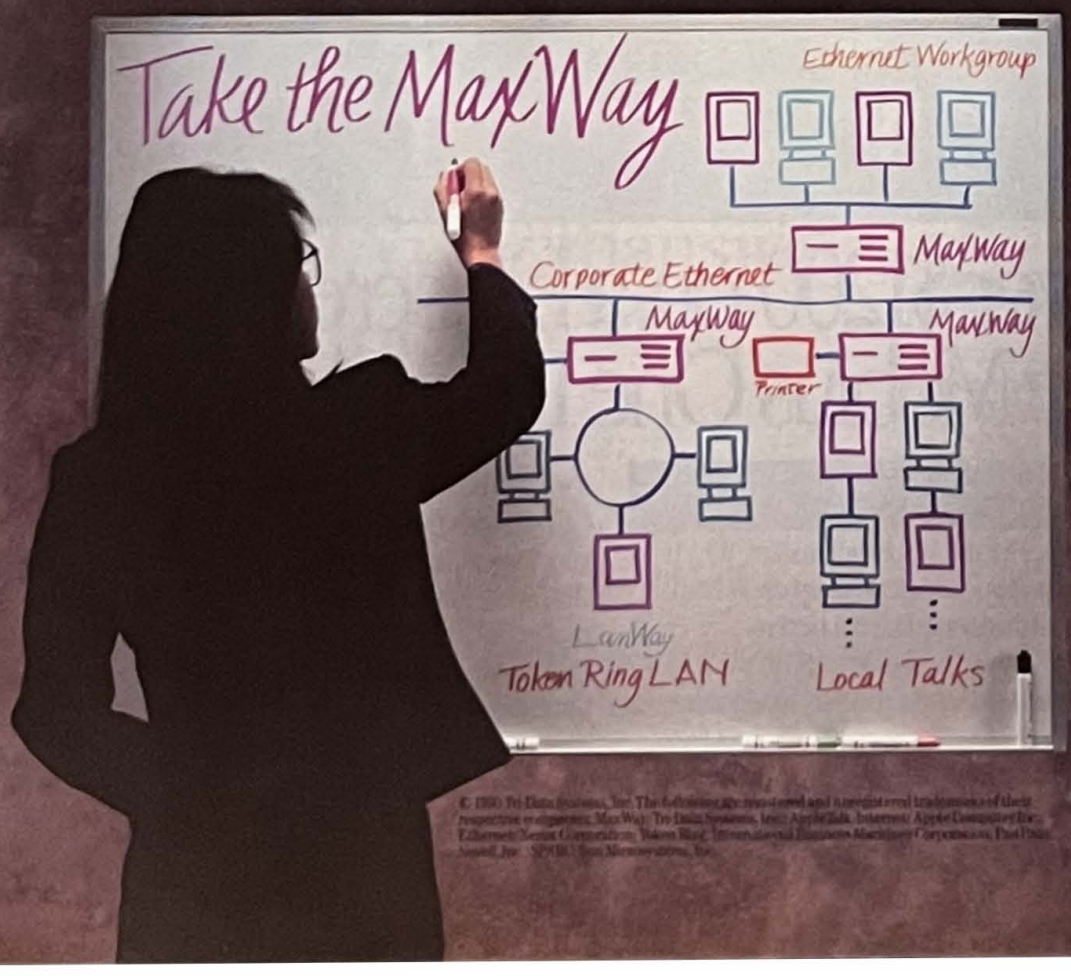

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*U.S. Suggested list price **$2795**

†Patent Pending

Sigma offers low-emission displays

By John Webster

Fremont, Calif. — In the wake of the VDT emissions turbulence swirling throughout the computer industry, Sigma Designs Inc. last week announced that it has begun U.S. sales of low-emissions versions of its gray-scale and monochrome monitors that were available only in Sweden.

The Swedish-edition 15-inch PageView, 19-inch L-View and 21-inch SilverView monitors comply with the Swedish government's standards for very low frequency (VLF) emissions, which are more stringent than U.S. standards.

The standard U.S. models cost from $1,499 to $2,199; the versions designed to Swedish specifications sell for an additional $200 each.

Sigma hopes to attract users who are nervous about the reported effects of magnetic field emissions, including VLF and extremely low frequency (ELF) radiation.

While ELF emissions have dominated discussions of the problem sparked by a recent article in Macworld magazine, Sigma officials said other studies suggest a link between the VLF portion of the electromagnetic spectrum and medical troubles in pregnant women.

To reduce emissions, Sigma has "put [into the monitor] additional circuitry that produces a magnetic field equal and opposite to that being generated by the monitor," said Charles Waters, Sigma director of marketing.

The company also announced last week that it is developing versions of the displays that will meet new standards for ELF emissions that the Swedish government is expected to set next year. The displays will be available in the United States and Sweden early next year.

Sigma Designs Inc. is located at 46501 Landing Parkway, Fremont, Calif. 94538; (415) 770-0100. □

CompuServe makes new GUI official

By Henry Norr and Carolyn Said

Columbus, Ohio — CompuServe Inc. will this week release Version 1.02 of the CompuServe Information Manager for the Mac, the first general release of a new telecommunications software program that provides a graphical interface and new features designed to make the on-line service more user friendly.

The program, known as CIM, replaces the service's character-based interface with pull-down menus, dialog boxes, icons and other conveniences familiar to Mac users. Other features include a customizable personal menu, an integrated address book, a message map to help users find their way through threads, and a built-in editor for composing messages and replies. To reduce connect charges, users can compose and review messages off-line.

CIM will be available to current CompuServe users for $24.95, which includes a $15 usage credit. Beginning this fall, it will be packaged with CompuServe's membership kit for $39.95.

In June CompuServe released what it called a "preliminary" Version 1.01, complete with a long list of known "limitations" and bugs. Many, but not all, of the problems have been fixed in the released version, sources close to the service said. Upgrades to Version 1.02 will not be available on-line but will be sent free to registered owners of the preliminary release, representatives of the service said.

CIM is designed primarily for new users and for others who want to browse interactively through CompuServe's services. CompuServe Navigator, a separate program that also offers a graphical interface, is targeted at regular users who want to automate their sessions on the service. Version 3.0.2, the second recent maintenance update of the $79.95 program, should be available on-line this week, CompuServe said.

CompuServe Inc. can be reached at 5000 Arlington Center Blvd., P.O. Box 20212, Columbus, Ohio 43220; (614) 457-8600. □

Special CIM deals at expo

Visitors to next week's Macworld Expo in Boston can choose from among several "show special" deals on the new CompuServe Information Manager.

CompuServe Inc. itself will offer CIM, regularly priced at $24.95, to current members of the service for $10 with documentation but no usage credit. Nonmembers can purchase the membership kit for $35, including a $25 usage credit.

Alternatively, people who stop by the Ziff-Davis booth at the show can get a coupon to buy a copy of Mac CIM, minus documentation, for $3.

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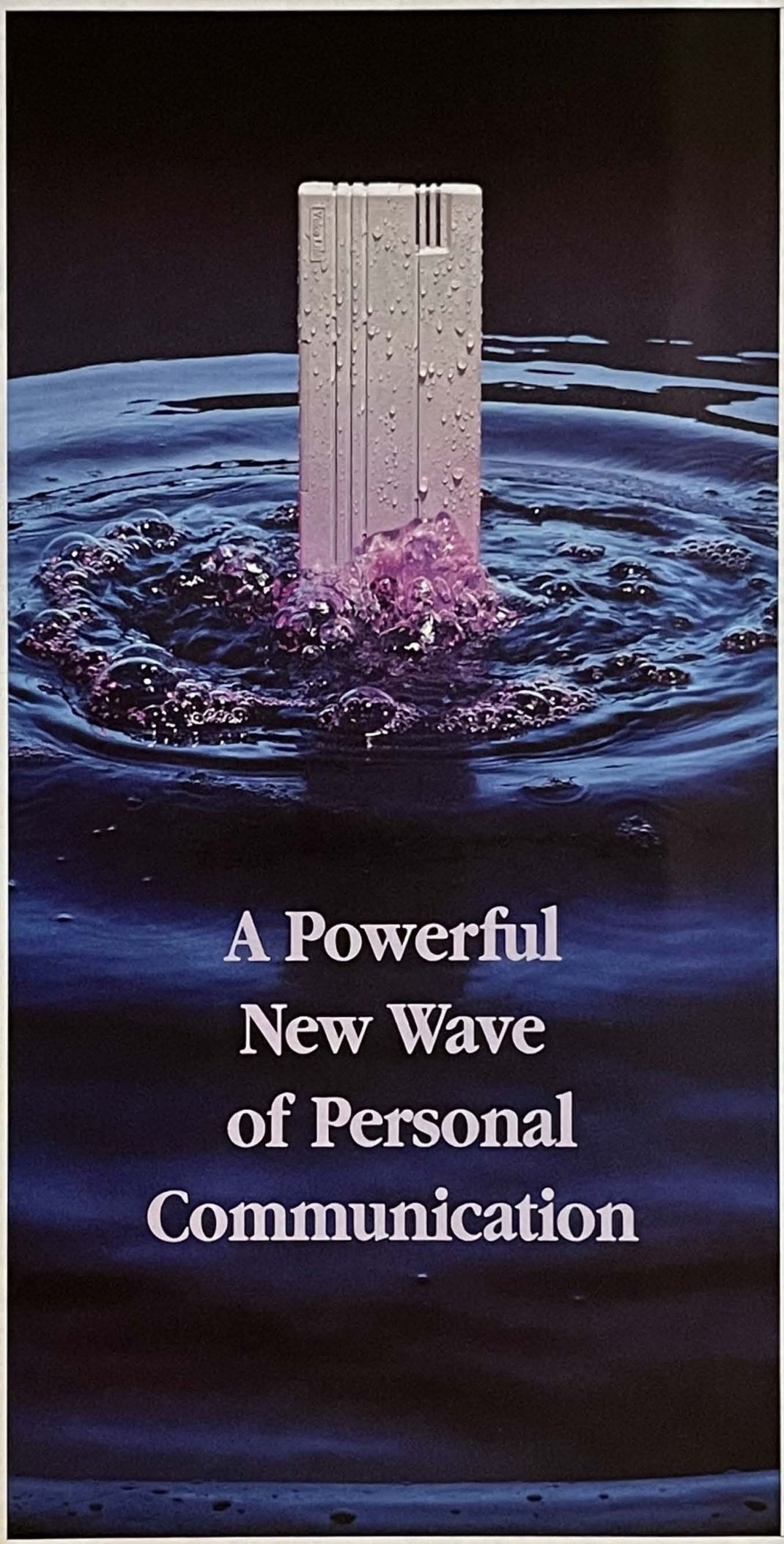
Industry Adopts Voice Input

Apple Computer's new release of System Software includes MACE (Macintosh Audio Compression Expansion). This addition to System Software allows every Macintosh to output 8 bit sound that has been compressed at a ratio of 6:1, 3:1 or 1:1. Compression is important because recorded sound contains a significant amount of data and can consume a considerable amount of memory unless it is compressed. Only one sound input device for the Macintosh has a Digital Signal Processor embedded with MACE. The product is Voice Link. Voice Link is a new technology for the Macintosh that integrates voice and sound with mainstream applications. The list price is $269.

During the last year Apple Computer has heavily promoted the integration of sound on the Macintosh. As a result, future releases of Macintosh applications will have integrated recording facilities. The integration of voice and sound will become as common to the Macintosh interface as text and graphics. Voice annotation within word processing, data base and spread sheet applications, or voice messaging with electronic mail applications will become a standard function of your Macintosh.

Voice Link from Articulate Systems is incredibly fast and releases the Macintosh CPU from the burden of compression routines. Articulate Systems was awarded the 1989 Mac User EDDY for the Most Significant Hardware Product of the Year for the Voice Navigator™, their voice recognition product. Voice Link represents Articulate Systems' most recent product announcement and is currently available through computer retail stores. ■



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Voice Link comes complete with sound editing software, voice messaging sofrware and lots of other tools to let you integrate sound. Voice Link gives you compressed audio files with unsurpassed fidelity.

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The Voice Communications Company

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Elefunt's shipping program keeps companies Shipshape

By Daniel Farber

Berkeley, Calif. — Elefunt Software last month released Shipshape 1.0, a comprehensive shipping-management program that the company said incorporates features previously available only on MS-DOS, minicomputer and mainframe platforms.

Designed to generate manifests, calculate rates, store client information and print labels, among other functions, the program comes with domestic and international rate tables for United Parcel Service Inc., Federal Express Corp. and the U.S. Postal Service. It can be expanded to handle any number of other carriers by adding their forms and rate tables.

Shipshape, built on Odesta Corp.'s Double Helix 3.0 database program, provides a wide range of querying and reporting capabilities, a customer database, an integrated editor for letters and memos, mail merge, label printing, on-line help, and entry validation.

Advanced features include:

▶ A Rate Shop window that lists prices for each available carrier and service class when the user enters a package's weight and destination ZIP code.

▶ PrintSmartz, a unique Startup document (INIT) that, when used with a standard ASCII-based switch box attached to the modem port, lets a single Mac support an array of printers loaded with various preprinted forms. When a form is printed, the INIT intercepts an identifying text string and passes it to the switch box; the box then automatically directs the job to the appropriate printer. Because standard switch boxes provide serial-to-parallel conversion, low-cost and heavy-duty parallel printers can be used, according to Elefunt.

▶ Automatic incorporation of data from a bar-code reader and an electronic scale interface that can be attached to the Apple Desktop Bus.

"Shipshape automates what was formerly a very tedious manual process," said Mary Garvey, president of Liberty Tree, a

Other developers use 4D for UPS management

Vero Beach, Fla. — While Elefunt Software's high-end multicarrier shipping program is based on Odesta's Double Helix 3.0, at least two developers working with ACIUS Inc.'s 4th Dimension now offer lower-cost applications designed specifically for shipping with United Parcel Service Inc.

▶ D/P Data Systems Inc.'s MacShip, available only in a single-user version, retails for $595, including a 4D Runtime module. A demonstration version is available for $75, which can be credited toward the purchase of the full program.

▶ UPS 4 MAC Version 2.0 from Software Design & Consulting of Milwaukee is available in both single- and multi-user versions, priced at $399.95 and $599.95, respectively, not including the required 4D Runtime module. Runtime modules are available at $75 from the developer.

Both programs support such features as automatic zone look-ups; automatic rate calculations; and printing of labels, COD tags and manifests.

Nat Findlay, general manager of Inside Fitness Inc., a manufacturer of rowing machines and other "elite fitness equipment" based in Quebec, said he runs MacShip on a Mac Plus, and although it is slow on that platform, it has been a major timesaver for his company.

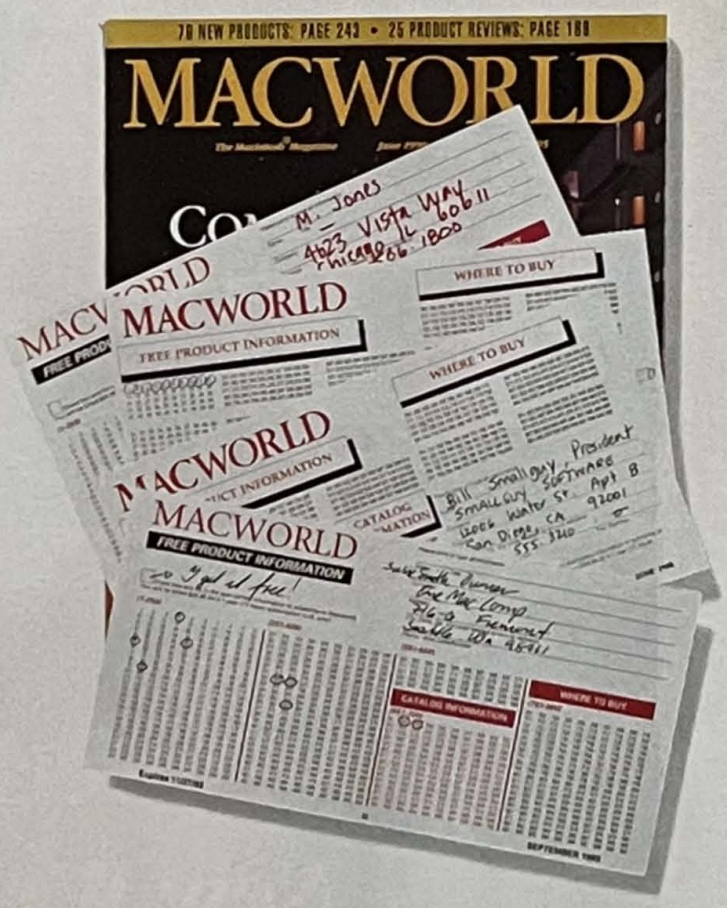
"A lot of our orders are for small, single-unit shipments," he said. "We ship a couple of hundred boxes a week all over the world, and figuring out the rates and filling out the book at 15 items per page was getting to be a real hassle."

Findlay said, however, that several needed features are missing from the D/P Data Systems program, including efficient facilities for shipping several items to a single location and printing multiple labels in batch mode.

D/P Data Systems Inc. is located at 3383 Ocean Drive, Vero Beach, Fla. 32963; (407) 231-3355.

Software Design & Consulting is located at 3859 S. Clement Ave., Milwaukee, Wis. 53207; (414) 491-2914. — *By Daniel Farber and Henry Norr*

More mass.



national direct-mail catalog company based in Oakland, Calif. "It helps us track orders and generate reports that conform to carrier requirements."

UPS, which approves computer systems individually, has certified Shipshape sites, according to Elefunt.

Shipshape will be priced at $1,495 until Oct. 1; it will be $1,995 thereafter. Certified Mac developers can purchase it for $995. Prices include a Double Helix 3.0 runtime module. The program requires a Mac with at least a 16-MHz processor, 2.5 Mbytes of RAM and a "high-performance" hard drive.

Shipshape can be integrated with Elefunt's Order House 3.0, an accounting, sales and inventory application priced between $1,995 and $2,995, depending on options.

Elefunt Software is located at 724 Allston Way, Berkeley, Calif. 94710; (415) 843-7725. □

Elefunt Software's Shipshape supports multiple delivery services. The Rate Shop window helps users choose the most economical carrier and service class for any delivery.

Format translator Software Bridge crossing over to Mac

By Henry Norr

Chicago — Promising to bring some competition to what has long been a one-horse race, a leading developer of format-translation software for IBM PCs and compatibles and DEC VAXes this month announced its entry into the Mac market with a new package of word processing format translators for use with the Apple File Exchange utility.

Systems Compatibility Corp., a 10-year-old developer best known for its Software Bridge package for MS-DOS platforms, said it would begin shipping Software Bridge Mac this week.

The $129 package provides 380 possible pairings among 24 popular word processing formats on the Mac and PC. Each pairing has a complementary one that works in the reverse direction, so any converted file can be restored to its original format. Users create a custom translator file with all desired pairings. When a document and the translator file are selected in Apple File Exchange, Software Bridge Mac automatically identifies the file format; the user does not even need to know the source file's format, the company said.

The format-translation category has been dominated by DataViz Inc., the Trumbull, Conn., publisher of the MacLink Plus series. But Systems Compatibility said its program will support a number of formatting features the DataViz product may not, including headers and footers, hard page breaks, side-by-side columns, and top and bottom margins. In addition, Systems Compatibility said its program reliably retains graphics and fonts when translating between two Mac word processors.

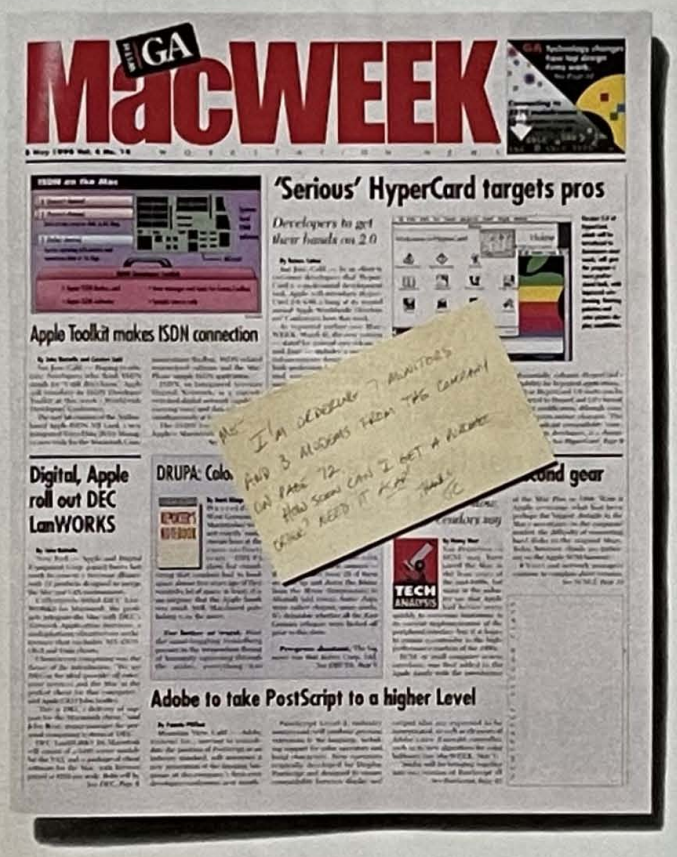
Systems Compatibility Corp. is located at 401 N. Wabash, Suite 600, Chicago, Ill. 60611; (312) 329-0700. □

The other side of the bridge

Word processing programs supported by Software Bridge Mac:

- Microsoft Word for the Mac
- MacWrite II
- Microsoft/RTF
- WordPerfect for the Mac
- ASCII
- Intelligent ASCII
- DCA/RFT
- DEC WPS/PLUS (DX)
- DisplayWrite (versions 2, 3, 4 and 5)
- First Choice
- IBM Writing Assistant
- Microsoft Word PC
- MultiMate
- Nota Bene
- PFS:Write
- Professional Write
- Samna Word III, IV
- Smartware II
- Volkswriter 3 and 4
- Wang PC (through Version 2.6)
- WordMarc Composer
- WordMarc Composer Plus
- WordPerfect
- WordStar
- WordStar 2000
- XyWrite III Plus

More class.


MacWEEK
'Serious' HyperCard targets pros
Developers to get their hands on 2.0
Apple Toolkit makes ISDN connection
Digital, Apple roll out DEC LanWORKS
DRUPA: Colo
Adobe to take PostScript to a higher Level
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* See following page for more information.

Programming libraries extend developers' resources

By Henry Norr

Vancouver, Wash. — Recent months have seen the release of several new programming libraries designed to help developers of commercial and in-house applications quickly add power and elegance to their programs:

▸ **Text editing.** Word Solution Engine from DataPak Software Inc. promises several advantages over Apple's TextEdit, including the capability to handle up to 16 Mbytes, compared with TextEdit's 32-Kbyte limit; much faster performance; support for multiple fonts, sizes and styles, as well as hooks for custom formatting and display options; and support for the Script Manager.

Word Solution Engine is a successor to WP-Engine, a text-editing module originally written for Arthur Young & Co. and later adopted by many Mac developers. The new package is available now at an introductory, one-time, royalty-free price of $300. It includes a Programmer's Guide, sample source code demonstrating each function, interface files for Apple's Macintosh Programmer's Workshop Pascal and Symantec Corp.'s Think C, and linkable object files for both systems.

▸ **Iconic interface.** DataPak is also offering Visual, an object module that lets developers build a Finderlike desktop interface into their applications, complete with multiple windows and icons for files, folders and trash. The product, including source code, is available at an introductory one-time license fee of $99, including source code.

Visual's interface is MPW Pascal but can be converted to Think C, DataPak said.

▸ **2-D and 3-D graphing.** Three D Graphics Inc. is offering a series of engines that can be grouped together to provide a wide range of graphing and charting capabilities, including 2-D and 3-D charts, table and text charts, curve fitting, slide shows, and special effects.

The engines, written in transportable C with fully documented function calls, can be used in applications for Windows 3.0 and OS/2 Presentation Manager as well as the Mac, the company said. Prices are negotiable, depending on the nature of the project and the engines required, a company representative said.

▸ **Compression.** Mystic River Software earlier this year introduced a trio of libraries that support standard image compression and storage schemes, including standards adopted by the Consultative Committee International Telegraph and Telephone.

g3lib performs CCITT Group 3 one-dimensional and modified huffman compression and decompression, while g4lib does Group 4 and Group 3 2-D compression and decompression. They support data formats common in both Intel and Motorola environments, as well as custom formats. Both libraries are object-oriented and optimized to work with QuickDraw, the company said.

Mystic River's third library, tifflib, lets applications read and write TIFF files in both Motorola and Intel formats.

Priced at $125 each, the libraries are available in object-code form for MPW C or Pascal and Think C. Site licenses and one-time source-code licensing are also available.

While Mystic River's current offerings are all oriented toward raster graphics, the company said it is also working on a library that will provide general-purpose Lempel-Ziv compression. To be called lzwlib, the package is due out by the end of the year.

DataPak Software Inc. is located at 9317 N.E. Highway 99, Suite G, Vancouver, Wash. 98665; (206) 573-9155; (800) 327-6703.

Three D Graphics Inc. is located at 860 Via de la Paz, Pacific Palisades, Calif. 90272; (213) 459-7949.

Mystic River Software is located at 22 Ninth St., Suite 503, Medford, Mass. 02155; (617) 391-4936. □

How MacWEEK outclasses them all.

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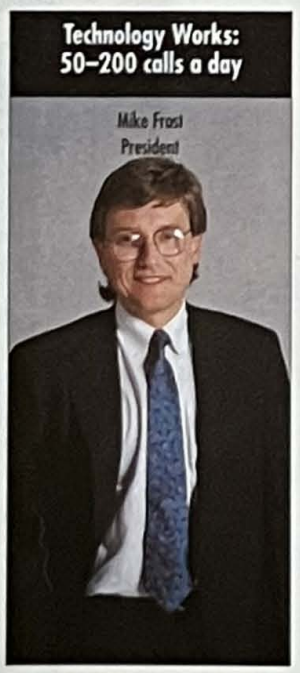

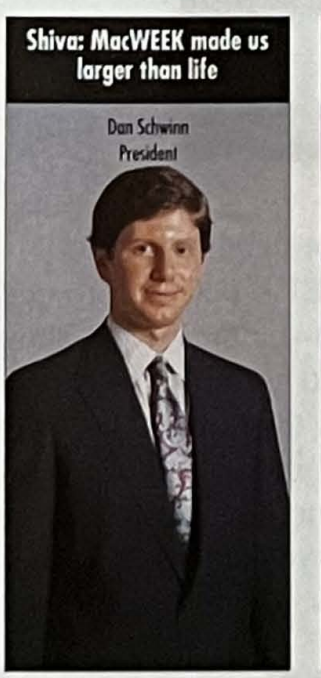

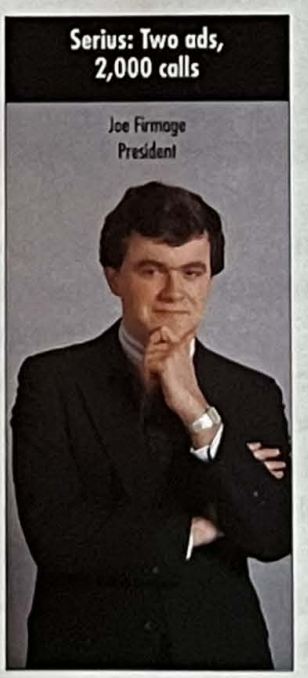

MacWEEK
If you're not buying weekly, you're buying weakly.

CD-ROM to showcase demos

Emeryville, Calif. — The HyperMedia Group this month announced The Demo Showcase, a CD-ROM library of Mac software demonstrations. Contributing developers will join in paying for the disc, which will ship free to Mac software resellers this fall.

Using a SuperCard-based front end to navigate between demonstrations, The Demo Showcase will offer a convenient way for customers and dealers to find and view demo software and for developers to distribute it, the company said.

Developers wanting to submit material (at 99 cents per kilobyte) must do so by Aug. 15.

The HyperMedia Group is located at 5900 Hollis St., Suite O, Emeryville, Calif. 94608; (415) 601-0933. □

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With the fastest access time available in CD-ROM technology, the new CD600 is the right choice for electronic reference resources, developer tools, system software, multimedia and countless other applications.

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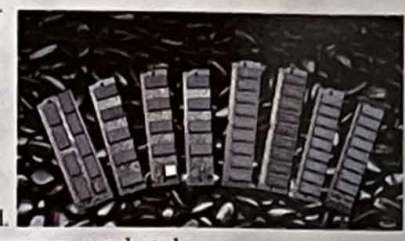
Tape Backup — "Standouts" (*Macworld*, Dec. 1989)

While everyone knows the importance of backup, most backup systems are just too difficult and time consuming. Microtech systems are easy to use and provide for fast protection of your valuable data.

Our T150 Tape Backup System was identified as a "standout" by *Macworld* magazine. And for larger capacity needs, Microtech now offers the *new* T1200 Digital Audio Tape unit with 1200MB of storage.

Both the T150 and T1200 come with Total Recall software, that handles a wide range of backup functions, even backing up an entire network, automatically and unattended.

Memory — *Macworld* Best Seller List



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QuickLock 2.0 mixes fun, security

NightWatch links, more displays added

By Henry Norr

Houston — Kent◆Marsh Ltd. this month began shipping QuickLock 2.0, a program that combines the fun of a colorful animated screen saver with the benefits of strict security.

Priced at $59.95, down from $99.95 for last year's original release, the latest addition to the company's line of security products lets users select from a dozen display options. The choices, one or more of which can be selected from the Control Panel or the installer application, range from a message marquee to a wandering puppy and Las Vegas can-can dancers. While letting background processes continue, QuickLock takes over the screen after a user-defined period of inactivity, at a specified time, or when the user invokes an Fkey or moves the cursor to a designated corner of the screen.

One of the 11 colorful display options that Kent◆Marsh has added to QuickLock 2.0.

Once QuickLock is activated, users must enter a password to resume use of the machine. Version 2.0 can be set to shut down after invalid entry attempts or at a specific time.

The current popular favorites in the screen-saving market (Berkeley Systems Inc.'s After Dark and Fifth Generation Systems Inc.'s Pyro!), also offer password protection. But QuickLock 2.0 is unique, according to Kent◆Marsh, in that it can be linked directly to another program that provides much more rigorous hard disk security, the company's The NightWatch.

If QuickLock is set, via the Control Panel, to invoke The NightWatch, that application's secure-shutdown routine is automatically used whenever QuickLock shuts down the Mac; a special disk is then required to regain access to the local hard disk (see story below).

Kent◆Marsh Ltd. can be reached at P.O. Box 460289, Houston, Texas 77056; (713) 623-8618; (800) 325-3587. □

Kent◆Marsh security software bundles

Package name	Price
QuickLock 3- and 6-Packs	$124.95 and $214.95
The NightWatch 3- and 6-Packs	$314.95 and $539.95
MacSafe II 3- and 6-Packs	$399.95 and $679.95
Business Security Kit (The NightWatch, QuickLock)	$179.95
Network Security Kit (MacSafe II, QuickLock)	$209.95
Executive Security Kit (The NightWatch, MacSafe II, QuickLock)	$269.95

NightWatch, MacSafe II keep data private

QuickLock 2.0 joins two earlier Kent◆Marsh programs, The NightWatch and MacSafe II, in a security lineup that has won a loyal following among microcomputer managers.

▶ **The NightWatch.** The NightWatch, priced at $149.95, automatically locks local hard disks when it is invoked to shut down the Mac. (If QuickLock 2.0 is also installed, users can simply select the standard Finder Shutdown command to invoke The NightWatch.) Thereafter, the user's name, password and specially configured start-up floppy are required to unlock the protected hard disks.

One or more users and passwords can be entered on each user disk, a standard start-up disk with a secure token installed by the program's Administrator application. In case the user disk is lost or the password forgotten, or someone else in the organization requires access, the administrator program has a master override feature.

That feature helped convince Ken Bray, senior systems analyst at Northern Telecom Inc.'s San Ramon, Calif., office, to license 133 copies of The NightWatch. "Someone here once lost a password for a PC, and we almost had to throw the machine out," Bray said. "With NightWatch, I keep the administrator disk in a locked case behind a locked door in a locked room, and I don't have to worry about that."

Each copy of the program is shipped with a unique signature, so no other owner can improperly use the override capability, according to Kent◆Marsh.

Sylvia Bass, data manager for the department of gynecology at the M.D. Anderson Cancer Institute in Houston, said The NightWatch's simplicity was the key factor that convinced her to install it on the department's 20 Macs. "People come through our area 24 hours a day, and the Macs, unlike our MS-DOS machines, don't have keys, so I was looking for some way to secure the data," she said, "but it had to be extremely easy to use. Now the doctors and nurses just need to double-click on the NightWatch icon to shut down, then lock up the floppy in their desks."

▶ **MacSafe II.** MacSafe lets users keep data or programs confidential by moving files, singly or in groups ("project sets"), into a metaphorical "safe" on disk. Files moved to the safe are not visible on the desktop and cannot be used without entering the safe's password. Multiple safes for different purposes and users may be created on a local disk or network volume.

The safe approach secures files far faster than any encryption program, Kent◆Marsh said. But three encryption options are also available, including an algorithm that complies with the Data Encryption Standard (DES). The fastest option, LightningCrypt, processes more than 100 Kbytes per second on a stock Mac II, according to the company.

MacSafe II, priced at $189.95, has two parts: an Administrator application, itself password protected, for creating, deleting and restoring safes and changing or overriding passwords; and a Control Panel device (cdev) that lets authorized users move files and sets into or out of safes and secret compartments.

Shar Blume, a systems engineer at DuPont Imaging Systems of Santa Clara, Calif., said MacSafe II is now installed on 75 of her organization's 100 Macs. One important benefit, she said, is that it makes it much easier for her to reassign computers temporarily for special projects. "I recently had to borrow some of the machines to do some training," she said. "With MacSafe, we could lock up the sensitive files and not worry about unauthorized users getting access. It was wonderful."

Earlier versions had some loopholes, she said, but "I have more than 50 programmers here, and none of them has found a way to get around the current version yet." — *By Henry Norr*

After Dark 2.0, a new version of Berkeley Systems' modular screen-saver package, includes a special version of Fish! from Tom & Ed's Bogus Software, the original undersea display for Mac screens.

Macs to talk in their sleep After Dark

By Henry Norr

Berkeley, Calif. — You've seen the lightning; starting this week, you can hear the thunder, too.

After Dark 2.0, a new version of the popular screen-saver package from Berkeley Systems Inc., will include optional sound effects with many of its 30 displays. Other highlights in the new package, which will retain the original version's $39.95 price, include:

▶ An enhanced version of Fish!, the animated undersea display from Tom & Ed's Bogus Software.

▶ Options to run multiple display modules simultaneously, side by side or mixed together.

▶ A Slide Show module that displays a sequence of PICT files.

▶ A PICS Player, for turning animation clips saved in PICS format into After Dark modules.

▶ SystemIQ, a memory-management feature designed to prevent the screen saver from degrading performance of I/O and CPU operations.

The upgrade is $5 for users who bought After Dark after June 1; for earlier buyers or owners of any version of Pyro!, the competing screen-saver package from Fifth Generation Systems Inc., the price is $14.95.

Berkeley Systems Inc. is at 1700 Shattuck Ave., Berkeley, Calif. 94709; (415) 540-5535. □

SIMMs for 8•24 GC

Huntington Beach, Calif. — Columbus International this month began shipping SIMM memory for Apple's still-unreleased 8•24 GC graphics accelerator card. The card uses SIMMs (single in-line memory modules) with a non-standard pin arrangement, so although standard SIMMs can physically fit in the sockets, they won't work, Columbus said.

Columbus sells the memory under the name Lifetime Memory Products at $82.25 for 1-Mbyte SIMMs and $355 for 4-Mbyte SIMMs.

Columbus International is located at 305 17th St., Huntington Beach, Calif. 92648; (714) 969-2421; (800) 233-6233. □

Smithsonian honors Berkeley Systems

Washington — Berkeley Systems Inc. is probably best known to most Mac users for the puzzles, doodles and worms in After Dark, its modular screen saver, or for Stepping Out II, its virtual big-screen utility. But the 5-year-old company got its start developing tools that open the power of the personal computer to the disabled, and last month that work earned the company a prestigious national award.

In a gala ceremony presided over by Judy Woodruff of the MacNeil/Lehrer News Hour, Berkeley Systems' outSPOKEN utility software was awarded the 1990 Computerworld Smithsonian Award for Business and Related Services. Co-sponsored by the Smithsonian Institution and ComputerWorld magazine, the prize program is designed to "search out and publicly honor those men and women who are using information technology ... to make our planet a more humane, healthy and cooperative place to live."

outSPOKEN is a complete screen-reading and screen-navigation tool for the visually impaired and learning disabled. Using Apple's Macintalk speech driver, the $395 software package can read "just about anything on the screen," said Berkeley Systems, including window titles, menu selections, folder and document names, as well as text entered in word processors, databases and spreadsheets.

Winners in other categories ranged from the Ministry of the Interior in Thailand to Federal Express Corp.

Their achievements will be showcased in a Smithsonian exhibition called "Information Age: People, Information & Technology." The $10 million show, described by the Smithsonian's secretary as "one of the largest and most important exhibitions we have ever done," opened in May and will continue indefinitely at the Museum of American History here. — *By Henry Norr*

E-Machines puts true color on T16

By John Webster

Beaverton, Ore. — E-Machines Inc. this month announced a 24-bit color board for the ColorPage T16, its 16-inch display subsystem.

The ColorPage T16/24 interface board is priced at $3,195, while the system's Trinitron monitor is $1,995.

The 72-dpi T16 has a resolution of 832 by 624 pixels, enough for a full page in landscape mode, and a 67-Hz refresh rate. The new board will support NuBus block-mode transfer to overcome performance bottlenecks inherent to the bus, the company said.

The announcement comes on the heels of a price cut that lowered the cost of a complete eight-bit color T16 system from $3,595 to $2,995 (see MacWEEK, June 19). E-Machines is attempting to position the system as an alternative to 13-inch displays, pointing to its 70 percent greater viewing area.

Users of the eight-bit T16 who want to upgrade to true color will be entitled to a credit for the full retail value of their board ($1,000) if they also purchase MoreCare, the company's $325 two-year extended warranty program.

E-Machines is at 9305 S.W. Gemini Drive, Beaverton, Ore. 97005; (503) 646-6699. □

Tactic maneuver: Typing tool enhanced

Miami — Tactic Software Inc.'s typing utility isn't Clairvoyant anymore, but under its new Magic Typist moniker, it has the same repertoire of keystroke-saving tricks and several new ones to boot.

Tactic this month shipped Version 1.1 of the program, which was first released in April, and at the same time changed its name. The $99 Startup document (INIT) can automatically type frequently used words, phrases or paragraphs into virtually any Mac program when the user enters an abbreviation or code, or simply starts to type a phrase the program knows.

Users can teach Magic Typist phrases and abbreviations by entering them in an accompanying application, by selecting text already typed in another program and hitting a Magic Typist hot key, or by instructing the program to "auto-learn" all words exceeding a specified length.

The new version features a completely rewritten manual, support for Fkeys on extended keyboards and other enhancements.

Tactic Software Inc. is located at 11925 S.W. 128th St., Miami, Fla. 33186; (305) 378-4110; (800) 344-4818. □

Other strategic changes in Tactic product line

Along with a new name and some new features for its typing-assistant utility, Tactic Software last month announced several other changes in its product line:

▸ **FontShare.** FontShare, a utility that gives networked users access to downloadable fonts stored on a server without copying them to the local machine's System folder, has been upgraded to Version 2.2. The new release works with Adobe Type Manager and with the new printer driver in Version 4.0 of Aldus PageMaker, according to Tactic.

FontShare is priced at $249 for a 32-user network license. The new version is free to owners of Version 2.0 who request it and return the original disk. Upgrades from versions 1.0 and 1.1 are $49 with return of the original disk.

▸ **ArtFonts.** Tactic slashed the price of its ArtFonts collection of downloadable PostScript fonts, combining three volumes that were previously sold at $99 each, plus three additional fonts, into one $99 collection. The package now includes a total of 21 fonts. Owners of any of the original volumes can get the full collection from the company for $19.

▸ **SoundClips.** Two additional volumes in Tactic's collection of digitized clip sounds are now available. Volume 3, titled Sports and Recreation, includes sounds from pastimes ranging from football to roulette. Volume 4, Trains, Planes, and Automobiles, offers such effects as cars crashing and planes landing.

The new volumes, like the first two in the series, are $99 each. Each comes on 10 floppies. Tactic said a CD-ROM incorporating all four volumes and the company's two-volume ArtClips collection is under development. — *By Henry Norr*

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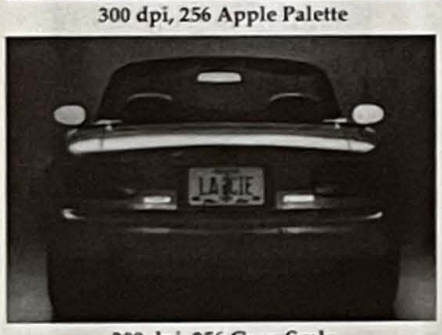
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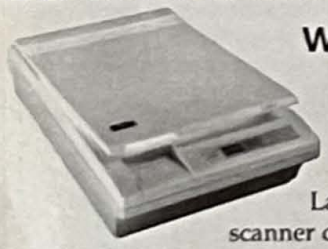

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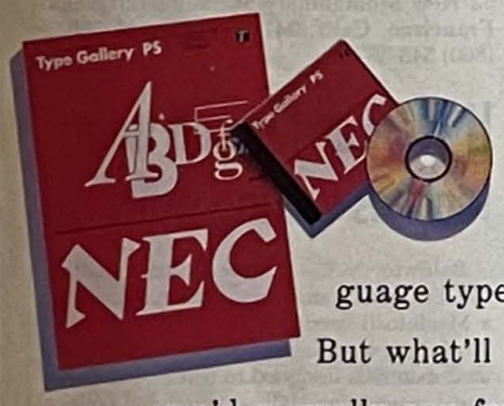

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C&C Computers and Communications

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Santorini shells out app code

By Henry Norr

San Francisco — Santorini Consulting & Design Inc. this week will begin shipping Ostrakon, a new application-development shell designed for novices and experts alike.

Named for the Greek word for "shell," the package includes source code and project files for a working Macintosh application, to which developers can add their own features.

In addition to basic functions such as event handling, menu handling and window management, Ostrakon incorporates powerful memory-management, volume-management, error-handling and color-management capabilities, Santorini said.

The application shell will be bundled with minishells for Control Panel devices (cdevs), Startup documents (INITs), system patches and other low-level Mac functions, according to the company.

Copies for individual or in-house use are $200; for commercial applications, the license fee is $2,000. Site licensing is available.

Santorini Consulting & Design Inc. is located at 1960 Hyde St., Suite 9, San Francisco, Calif. 94109; (415) 563-6398. □

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Reference Software cleans up Grammatik

San Francisco — Grammatik Mac 2.0, a major upgrade to Reference Software International Inc.'s grammar and style checker, is slated for release next week.

Version 2.0, designed in part to address complaints about the $99 application's user interface, will offer modeless help, better window handling and several new convenience features, according to the company.

Other enhancements include support for T/Maker Co.'s WriteNow, in addition to other leading word processors, and a Rule/Help Editor that will permit users to delete or modify the rules and help screens built into the program and to define their own writing rules.

Bundled with the new release, which Reference said it will ship free to all registered users, will be a copy of The American English Writing Guide, a $50 HyperCard stack published by Nova Development Corp. of Calabasas, Calif.

Reference Software International Inc. is located at 330 Townsend St., Suite 123, San Francisco, Calif. 94107; (415) 541-0222. □

Lifetree Software ships Correct Grammar update

San Francisco — Lifetree Software Inc. last month released its first update to Correct Grammar, the $79 grammar- and style-checking application it shipped earlier this year.

Version 1.0.5, which the company has mailed free to registered users, fixes several bugs. It also adds a feature that lets users save partially edited documents at any time and a "resume" function that makes it possible to suspend checking partway through a document and continue later without rechecking material already covered.

Lifetree Software Inc. is located at 33 New Montgomery St., Suite 1260, San Francisco, Calif. 94105; (415) 541-7864; (800) 543-3873. □

HyperCard-based tutor teaches writing skills

Baldwin, N.Y. — Educational Activities Inc. last month announced the availability of a Macintosh version of its Writing Process Workshop, a package of software and associated materials designed to teach writing and word processing skills in remedial college and adult writing courses, as well as in grades six to 12.

The series, developed for the Mac in HyperCard, teaches all aspects of writing, from readiness activities and brainstorming to proofreading and evaluation.

Separate packages, priced at $69.95 each, are devoted to four categories: autobiographical incident, persuasive writing, evaluation and report of information/observation. The complete set is available for $229.

Educational Activities Inc. is located at 1937 Grand Ave., Baldwin, N.Y. 11510; (516) 223-4666. □

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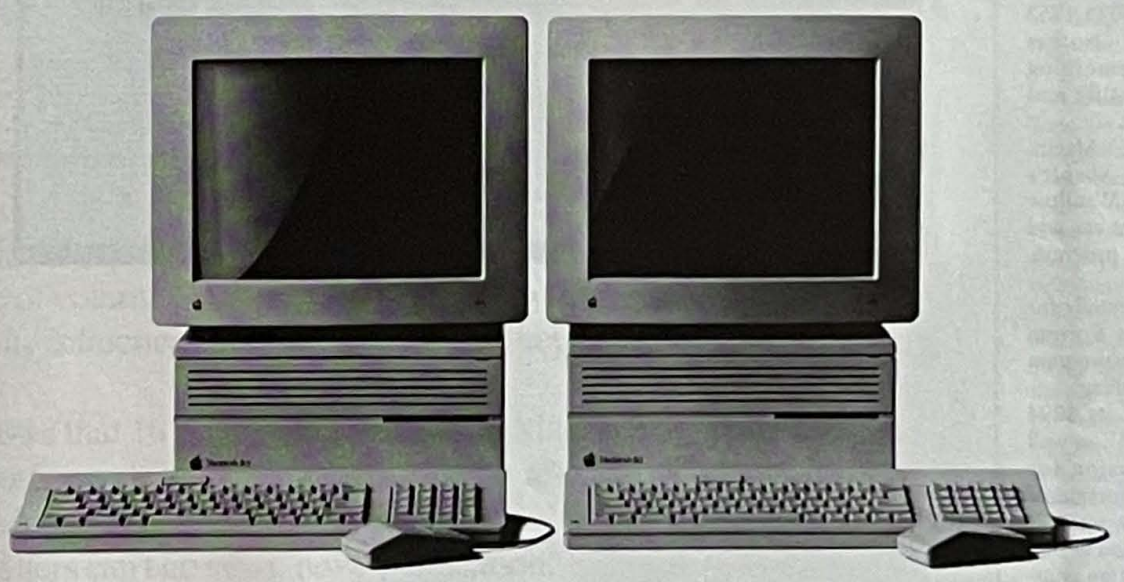

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PassProof to make entry at expo

By Henry Norr

New York — Kensington Microware Ltd. will unveil PassProof, a multifaceted hardware-and-software package designed to prevent unauthorized access to Mac drives and data, at next week's Macworld Expo.

Due in September at $99.95, the package includes an array of protection devices:

- A device that fits into the floppy drive slot and can be locked with a key to prevent unauthorized users from copying files or introducing viruses.
- Metal plates that seal the Mac's floppy drive port and SCSI port. Tamper-proof screws and a custom screw driver for installation are included.
- Control Panel software that lets the PassProof master user establish and modify a list of authorized users and passwords. Only users who enter a valid name and password or passwords can then start up the machine.
- Quick Cover, a Startup document (INIT) that blanks the screen on command or after a period of inactivity defined by the master user. Only authorized users can regain access to the machine. All entry attempts are recorded in a log accessible to the master user.
- A special debugger that replaces the built-in one and closes off a backdoor that could otherwise be used to defeat the security software.

The PassProof floppy drive lock resembles one offered as part of KeyLock, a Swedish product introduced in the U.S. market last year by several companies. KeyLock also includes password-protection software, but at $129.95, it costs more, supports only one entry password and lacks the Kensington product's other hardware and software features.

Kensington Microware is at 251 Park Ave. S., New York, N.Y. 10010; (212) 475-5200. □

MacFortran II for '030 Macs: Faster execution, VAX and VS extensions

By Henry Norr

Rochester Hills, Mich. — Delivering what it called "the fastest Fortran ever available for the Macintosh," Absoft Corp. this month began shipping MacFortran II, a completely new compiler for the Mac II family and the SE/30.

The new product, derived from the company's work developing Fortran compilers for Motorola Corp.'s 88000 RISC (reduced instruction set computing) processor, can increase program execution speeds up to 250 percent compared with the code generated by previous Mac compilers, according to Absoft.

In addition, the company said, the new package offers extensions that enable users to recompile and run programs developed for other platforms, including DEC VAX/VMS and IBM/VS, with little or no change.

MacFortran II can be fully validated under the X3.9 1978 standard of the American National Standards Institute and the Department of Defense's MIL-STD 1753 specification. The new product also has extensions for Fortran 90, an emerging enhanced standard for the scientific and engineering programming language.

The compiler works under Apple's Macintosh Programmer's Workshop. Absoft's MRWE (MacFortran Runtime Window Environment), a Fortran library that can add a Mac interface to each compiled program, comes with the package.

MacFortran II, available now, retails for $595, but until Oct. 1, users of any Fortran for the Mac can upgrade to the new program for $195 plus $10 shipping and handling.

Absoft will continue to market its $294 MacFortran for the Mac Plus and SE as well as MacFortran/020, a $495 version for 68020-based machines. An A/UX version of MacFortran II that will be fully source-compatible with the standard version is due soon. The company also offers Fortran compilers for the NeXT Computer System and most other Unix platforms.

Absoft Corp. is located at 2781 Bond St., Rochester Hills, Mich. 48309; (313) 853-0050. □

What's new in MacFortran II

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- Extensions for DEC VAX/VMS, IBM/VS and Fortran 90.

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New Media STEVE ROSENTHAL

They've got multimedia dead to rights

Multimedia publishing could certainly make good use of material already produced by the movie and TV industry. But without a change in licensing policies on the part of existing rights holders, it may be hard to realize that potential in practice.

That was the point argued quite cogently last month at the Seybold Digital World conference by Bob Stein, president of The Voyager Company of Santa Monica, Calif.

According to Stein, whose company publishes videodisc releases of both cinematic classics and original multimedia productions, it's extraordinarily difficult to license portions of existing movie and TV material for inclusion in new multimedia projects.

Licensing problems. The problems, Stein said, are several.

▶ No consensus on value. There's no consensus on how much the use of an extract or clip should be worth, nor even on any rational basis for setting that value. While a studio might have an established price for rebroadcasting a movie or using a short clip as part of a commercial, most haven't yet figured out how to price multimedia rights.

Partly, that's because multimedia publishing is new. Rights holders "keep thinking it might be worth something," said Stein, but they don't know how to figure out how much.

Determining value also is more complicated because multimedia presentations are not viewed the same way as linear productions. What do you do if the clip is only going to be visible in an interactive presentation if the user makes certain choices?

▶ Different audience. Furthermore, Stein explained, the film and video industries operate on a price scale largely set by mass distribution to millions of people, while multimedia budgets are based on considerably smaller audiences. As a result, he said, the numbers each side thinks are reasonable may not even be in the same ballpark.

▶ Transaction costs. Studios and networks consider their libraries key assets, and they want to protect that material with detailed contracts. But drafting and reviewing a detailed contract takes time.

Even with an in-house legal staff, reviewing a proposed deal costs the company money. At most studios there's usually a backlog of legal work. Unless they feel they're going to get a lot more back, rights holders just don't want to bear those costs.

One result, Stein recounted, is that he often can license the right to republish an entire movie — a standard deal the studios are used to doing — for less than the cost of licensing the use of a five-minute extract from that same film.

A changing situation. There is reason to hope the situation may be changing. Roberta Cairney, an attorney at Cooper, White & Cooper in San Francisco, who counts rights holders such as Lucasfilm Ltd. as well as multimedia developers among her clients, told me that buying and selling multimedia rights is becoming a standard transaction in her office.

Developers can help the process along, she said, by making requests as simple and straightforward as possible. If you want to license rights to a sequence, write a brief letter to the rights holder and attach a short suggested agreement. As a rough guide, reviewing and approving such a document should take less than an hour.

"From the point of view of the rights holder, there's not much tolerance for negotiation for small projects," she said.

Clearly, Stein and Cairney have had very different experiences in this field. But the differences highlight why we need a lot more deals to make licensing for multimedia publishing as ordinary as buying stock photos or securing the right to perform a stage play. More deals will establish market prices and give everyone involved a chance to develop practical policies and stock forms.

But the best course, say most developers, is a standard license and single agency for rights. That would be ideal, Stein said, but it doesn't look imminent. □

Send tips and comments to Steve Rosenthal, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; AppleLink: Steve.R; MCI: 114-8611.

Reselling.

MacWEEK

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LATE NEWS

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* See following page for more information.

StackWEEK STEVE MICHEL

SuperCard answers questions, raises more

ISSUES & TRENDS

Silicon Beach Software's SuperCard 1.5 is shipping, and in some ways it raises as many questions as it answers.

Positioning SuperCard. The chief questions are: How will SuperCard fare, given the pending release of HyperCard 2.0 and what is the relationship between the two programs?

To date, SuperCard has been a superset of HyperCard, offering all that HyperCard offers, as well as a wide range of additional features. With SuperCard 1.5 and HyperCard 2.0, the relationship becomes more complex: The Silicon Beach product still offers a number of features that HyperCard doesn't, but at the same time, HyperCard 2.0 will offer things not currently supported by SuperCard. The presence of Plus, ToolBook, and a number of pending similar products for IBM PCs and compatibles promises to confuse the situation even more.

The upshot of this will be something of a quandary for developers. Previously, it was a rather straightforward decision about which environment to support. Do you need to show color pictures, open multiple windows or create your own menus? Use SuperCard. HyperCard 2.0, though, will let you do some of those things. Of course, you could always start a project in HyperCard, then convert it to SuperCard if you needed to do so. Unfortunately, though, SuperCard support for translation of HyperCard 2.0 stacks will not come immediately after the release of the new HyperCard, which is now expected in August.

New features. So, what are the new features of SuperCard 1.5?

▶ Interactive debugger. Like HyperCard 2.0, SuperCard now includes an interactive debugger. Called ScriptTracer, it is a dialog that can be invoked in a number of ways. For example, if debugging is enabled, script error dialogs include a Debug button that takes you directly to the debugger. You also can embed calls to the debugger directly into your code by including a command such as "if x > 5,000 then debug true." The debugger allows you to examine and modify global and local variables, as well as send messages to SuperCard while script execution is paused.

ScriptTracer is powerful, and its only problem would be for those with smaller screens: It takes up a lot of room on the screen, possibly hiding the effects of what the script is doing on the card underneath the dialog.

▶ Greater control over menus. In SuperCard 1.5, hierarchical and pop-up menus are now very easy to implement. Although you still must create the menus themselves in SuperEdit, SuperTalk now allows you to create or remove menu items (not the menus themselves) at runtime.

▶ Lists. Also useful is the new capability to create "list" fields, which allow the selection of a line or group of lines by clicking on them.

▶ Improved Runtime Editor. Probably the first thing most users will notice in the new SuperCard, though, is the vastly improved Runtime Editor, which provides standard editing tools for working with SuperCard projects.

The Editor, which was rewritten from the ground up by Chris Watson and Bill Appleton, is much faster and more reliable than the previous version. Since the user's view of SuperCard's performance is largely due to the sluggishness of the Runtime Editor, this should ease some complaints about the program's speed.

▶ Invisible windows. SuperCard still is not fast. Large cards, especially those with color bit maps and a lot of buttons and fields, still take a long time to load. To offset this, SuperTalk lets you open windows invisibly, thus hiding some of its sluggishness from the user. (You can, for example, open a window invisibly while a user is reading one card, then display it.)

While we're waiting for Apple to drop the other shoe, it's hard not to wonder where SuperCard will fit in the scheme of things. But Version 1.5 is a major upgrade that should allow for a greater variety of applications and make those applications easier to create. □

If you have any tips, or other HyperCard-related information, write to StackWEEK c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. Electronic mail: AppleLink: SMICHEL; CompuServe: 72511,151

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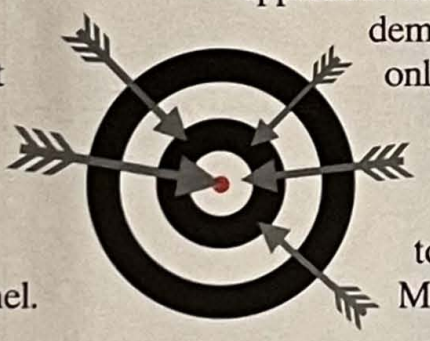

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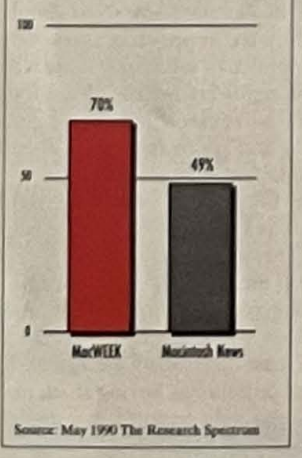

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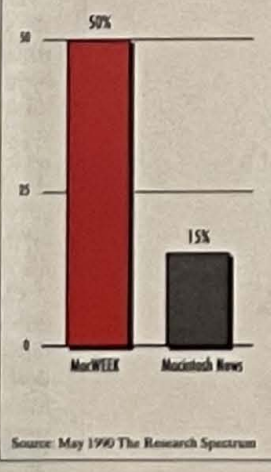

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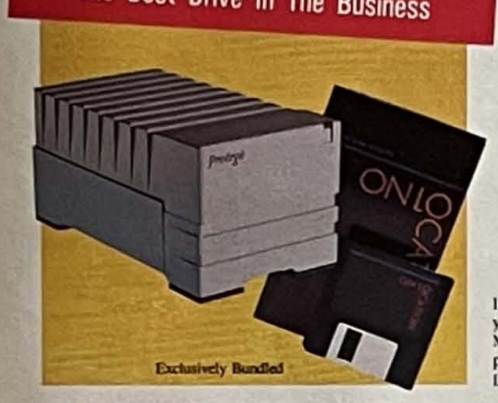

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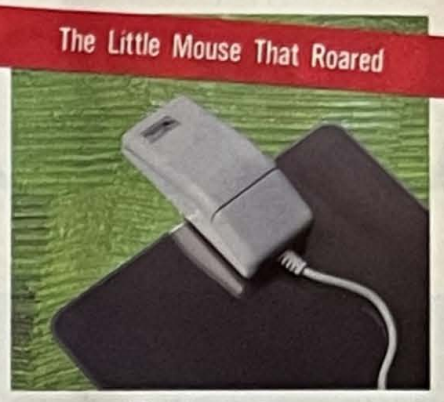

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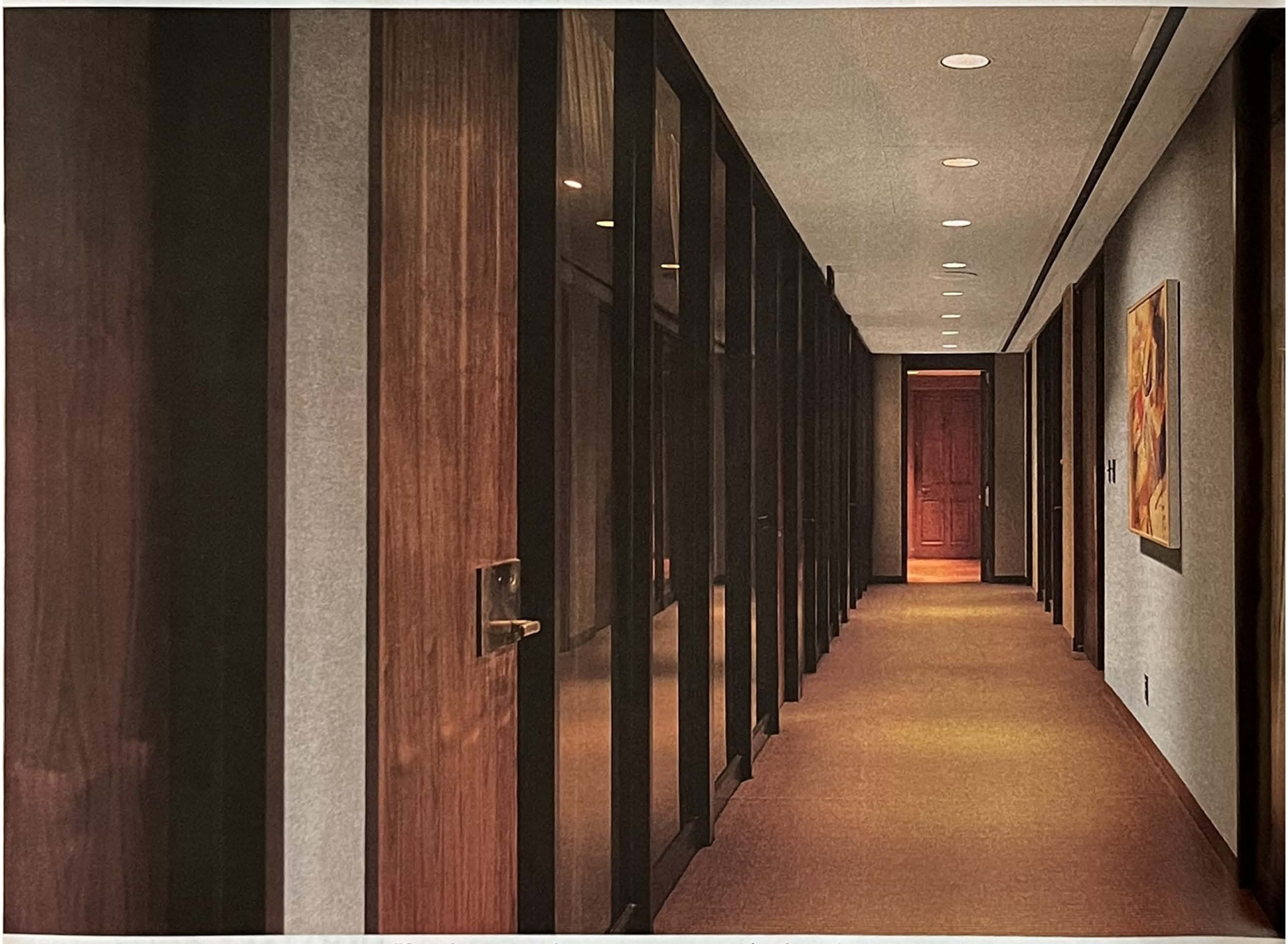

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Suppose, for instance, that you're preparing a report in Word. Because it features built-in Mail support, you can zap the report throughout your entire workgroup via Mail.

Without ever having to leave your program.

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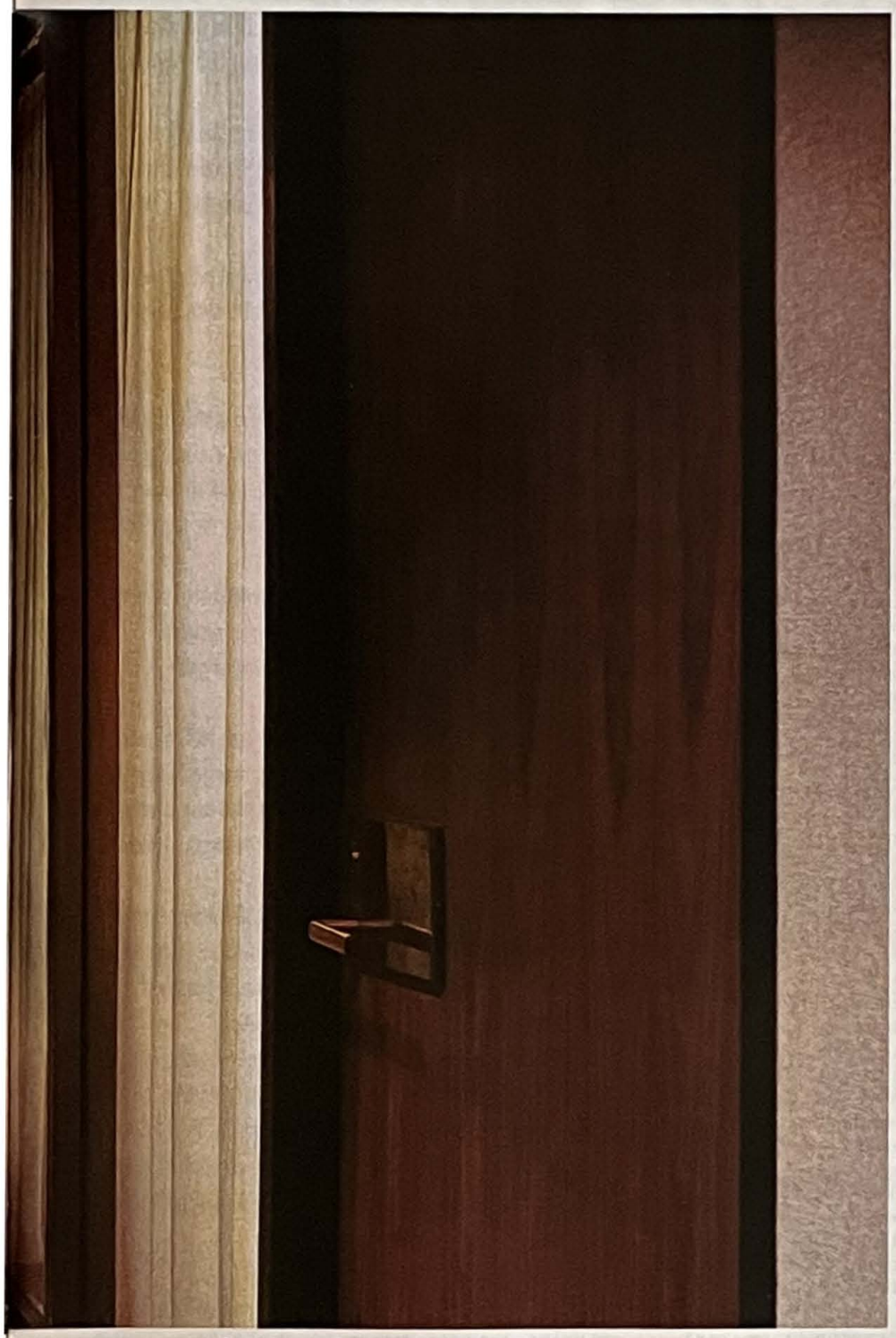

And without losing formatting.

Then, if those receiving your report are in Word, they can access your document with one keystroke, digest it, add pertinent info, even attach suggested changes. And spit it right back to you without leaving their program.

Now if you think that's whiz-bang, consider this: When you combine Microsoft Excel with Mail, you can do infinitely more than share spreadsheets.

Thanks to Microsoft Excel's built-in macro language, you can do stuff like write your own macro to receive, process, and fulfill orders.

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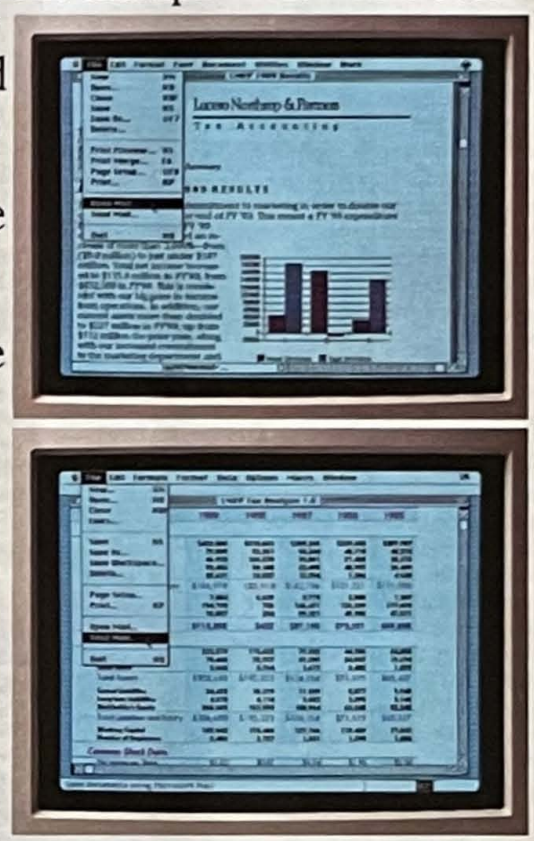
And that's just one example of how Microsoft Excel and Mail allow you to consolidate and distribute data across a network automatically. Even if you have both Macintoshes® and PCs.



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Letters

Klatzkin: Personal side of computer journalism

The computer industry is so hectic, so fast paced, that many of us forget that we are in the *personal* computer industry, an industry built and nurtured by individuals. Too many of us have lost sight of that. It's only the bottom line and how many billions in sales we're doing now.

Unfortunately, a person in this personal computer industry is no longer with us. A person who really did care more about features and performance and value than the discount at Software Connection. A person who gave his time to add to this industry in any way he could.

He was a reporter, a reviewer, an eye on the marketplace. He obviously liked what he was doing, liked seeing new items that could stun the free world. He gave his best intended opinions on not only how they could stun the free world but conquer it as well. And what would be his reward for this wisdom? A byline. An article in a "rag" that would let the world know it was about to be conquered.

I would love to know how many of his suggestions, ideas or comments made it into Version 2.0 of Product X. He only wanted it to be a better product.

I guess reviewers are like umpires. You don't always like the call, but you wouldn't play the game without them.

But now we must play with one less umpire, one less person of wisdom. And I pray that where Dennis Klatzkin has gone, they only have Macintosh. I thank you for your wisdom, Dennis, I thank you for your unselfishness, and I hope your spirit further enlightens the rest of us in this personal industry.

Jay Jason Bartlett
Tactic Software
Miami

Editor's note: Donations to help defray medical expenses may be made to the Dennis Klatzkin Memorial Fund in care of MacWEEK.

Will Apple's 'Classic' Mac concept fizzle, not sizzle?

MacWEEK's July 10 article "Apple shells out $1 million for Classic name" is yet another disturbing indication of Apple's corporate misdirection. People like the idea of old food recipes: "Grandma's old-fashioned apple pie" or "brewed just like our founders did in 1879." But try to tell somebody they should be using a "classic" computer system.

In the DOS world, people are beating each other over the head to come up with faster, cheaper, more highly integrated PCs. Technological advances, such as interleaved memory access and fast expansion-bus bandwidths, are readily available. Has John Sculley ever walked into a Taiwanese expatriate's clone store or read Computer Shopper, or would he rather spend his time savoring the taste of Classic Coke over Pepsi?

For the million dollars Apple spent on a name, there are lots of engineering teams that could design and produce fast cheap Macs for Apple, using today's — not classic — technology. The product could be called the Mac XYZ, for example. Bet people would buy it in spite of its name.

Or Apple could license the Mac ROMs and operating system disks to any manufacturer for $250 a copy. Apple could make a lot of money doing what it does best: selling great system software.

Paul Nicholson
Lawndale, Calif.

'Market approach' to ELF means survival of richest?

So MacWEEK thinks that people concerned about the destruction of our earth's environment are "crackpots" ("Clearing the static in VDT controversy," MacWEEK, June 26).

When the more expensive monitors address the ELF (extremely low frequency) problem and the cheaper ones don't, I guess that means people who have less money may be killed off sooner than those who can afford "the market approach" to consumer protection.

Steve Jones
Gargoyle Mechanique Laboratory
New York

GORDON STUBBS

System 7 file compression could squeeze Windows 3

System 7.0 sounds wonderful, but I haven't heard mention of one improvement that would be very easy for Apple to implement, extremely helpful to Mac users and provide another competitive advantage over Windows 3.0.

File compression should be built into the operating system. Under this scenario, users would be able to choose whether a given file would be stored in compressed or uncompressed format. Compressed and un-compressed files would behave identically under the Finder and Standard File dialogs; the fact that certain files are compressed would be invisible to the user, except that they would take longer to open because of the decompression taking place.

When a data file is saved, there should be a check box in the standard file format dialog to indicate whether the file is to be compressed or not. There should be a similar check box in the Get Info window, which would have the same purpose except that it would work for applications and folders as well as for data. When the user clicked on this check box, the folder, application or data file in question would immediately be compressed. Decompression would take place automatically whenever the particular object was opened again.

Adding this feature would have no negative impact on the user interface. In fact, it would greatly simplify things, since users could then download software from online services without even knowing what file compression is.

We all know that the Macintosh makes heavy use of graphics and that graphics use a lot of disk space. Having built-in file compression would mean that less disk space would be needed by a given Mac user, which would lower the amount of money needed for hardware. Since hardware expense is one of the reasons many people end up buying IBM clones rather than Macs, this is another argument that should be given real consideration.

Finally, at this stage in the computer wars, it is important for Apple to use every marketing advantage it can get, because otherwise fewer Macs will be sold, so less software will be written for them, so even fewer Macs will be sold, and so on.

I hear that System 7.0 has built-in compression for program resources. Why not modify that algorithm to do the same øfor applications, folders and data files? Apple, are you listening?

Gary Robinson, president
Microvox Systems Inc.
New York

Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. MCI: 323-1203; fax: (415) 243-3650. Include your name, address and phone number. We reserve the right to edit letters for clarity and length.

Editorial

Looking to future by backing hackers

What are corporate computer managers to make of the news that the founders of two of the most important vendors of business computing tools, Lotus Development Corp. and Apple, have formed a foundation that will, among other goals, provide legal support for computer hackers?

Initial funding for the Electronic Frontier Foundation comes from Mitchell Kapor, the principal author of Lotus 1-2-3, and Steve Wozniak, the creator of the Apple II. The third founder of the fund, John Perry Barlow, is best known as a rock lyricist.

Among the foundation's first activities is to contribute to the legal defense of a computer game manufacturer and an editor of a hackers' newsletter who are two of the targets of the U.S. Secret Service's Operation Sun Devil.

Strange bedfellows? This association between the makers of mainstream business tools and the alleged criminal fringe of personal computing appears at first to be nothing less than bizarre. After all, the business and government customers of companies like Lotus and Apple are the institutions most at risk from the unauthorized snooping and electronic vandalism practiced by some hackers.

Certainly, corporations and other institutions should be concerned about security and protect against unauthorized users breaking into their computer systems. Information stored on computers is often the key asset — the digital gold — of a company.

But the hackers who entertain themselves by performing virtuoso feats of programming or get a thrill out of breaking into a computer are not necessarily hardened criminals bent on bringing down the system. In the recent celebrated case involving a destructive worm released over the Internet, Robert Morris' motive was to demonstrate a loophole in the network's security, not to cripple it.

Hacking involves a certain amount of mischief, but it usually also entails a measure of healthy technical curiosity. Most of the revolutionary innovations in the computer industry sprouted from the minds of hackers. Apple is a prime example of a company that hacked its way into becoming a $5 billion corporation.

Companies that find hackers in their midst shouldn't necessarily respond with disciplinary or legal actions, but should instead seek to cultivate their programming talents and energies into projects that result in benefits for the company. Establishing a hacker group, like a chess club, within a corporate programming department would create a legitimate channel for programming fiends to develop their skill and satisfy their appetites.

Benefits to society. The Electronic Frontier Foundation can help foster a new public consensus that values the talents and energies of hackers, and thus encourages them to contribute positively to society.

Besides providing legal defense funds, the foundation will support public education of the opportunities and challenges posed by electronic communications, raise public awareness of the civil liberties issues involved, and support the development of new tools to extend telecommunications technology to non-technical users.

All of these are worthy goals that corporations and business computer users should support. It is tempting for business users to condemn all hackers as criminals, but it is more productive to try to understand their motivations and to seek to channel their energies into useful work. □

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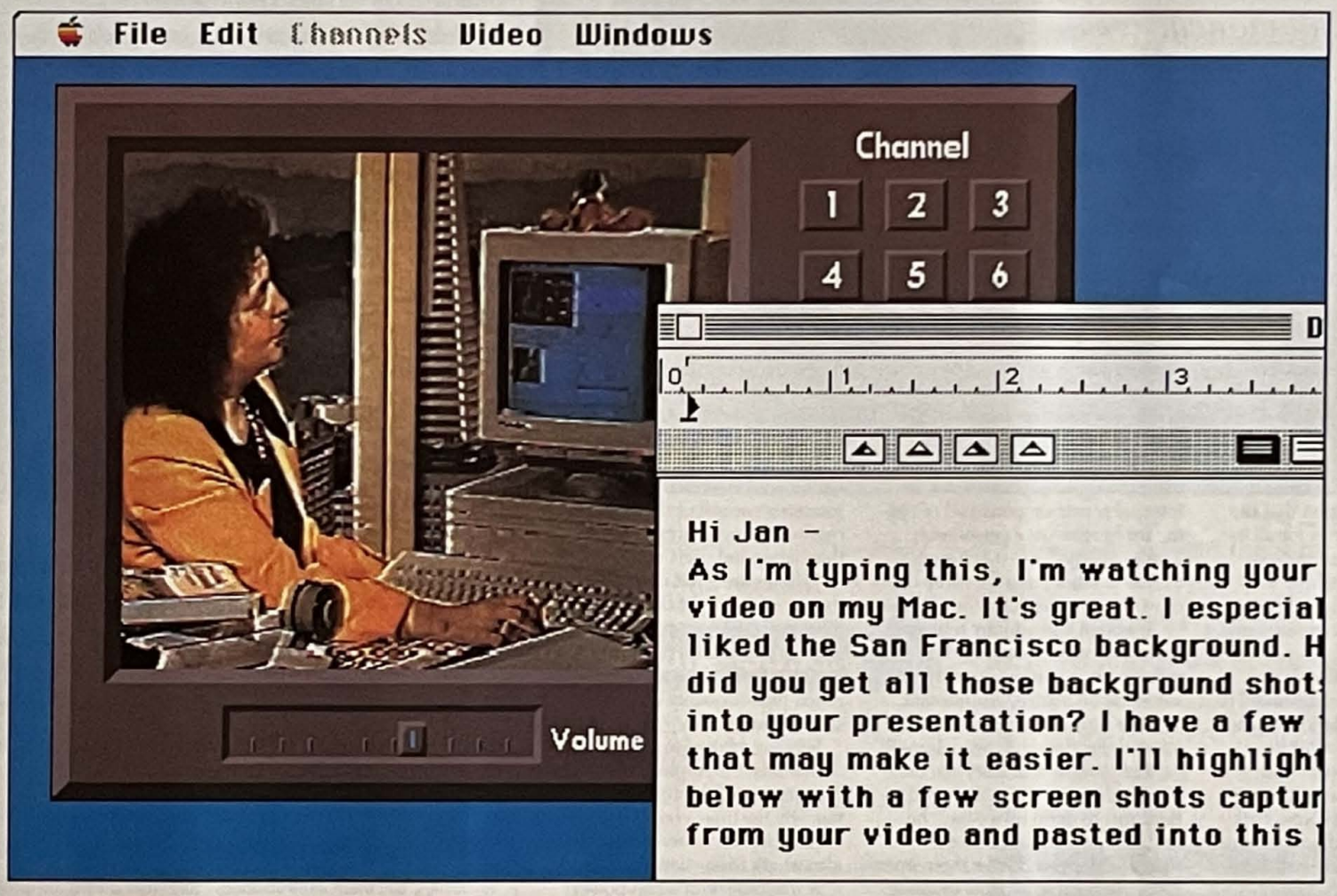
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video on my Mac. It's great. I especial
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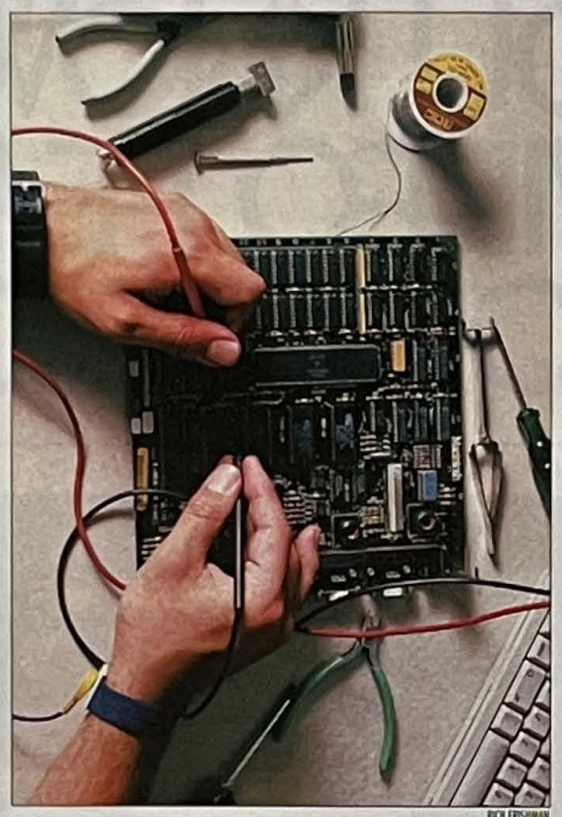
Setting up an in-house repair shop

Besides saving money, managers keep control



Instead of sending a board to a dealer who then sends it to Apple for repair, an in-house repair shop could have it up and running in just a few hours.

RICK FRISHMAN

By Emily Kay

When a Macintosh in Chevron USA Inc.'s Richmond, Calif., refinery breaks down, Bill Silva wants it repaired quickly and well.

So Silva, lead analyst at the refinery, does it himself.

"If outside consultants don't see problems when they're here, they tell us, 'There's no problem; call us again,' " said Silva. "We might have to call them six times before they change some parts."

For its DOS-based computers, Silva's shop employs the same third-party service organization that the rest of the company uses for all its machines. But as an authorized Apple service center, Chevron's Richmond refinery maintains its own Macs, running diagnostics and swapping hard drives.

As a former computer-dealer technician, Robb Kinnin wanted to retain the working relationship he had with Apple, even after he signed on as office-technology coordinator with Ernst & Young's Metropolitan Office in New York. As a result, Kinnin's office became a self-servicing account with Apple, enabling it to repair its Macintoshes internally.

Labor savings. Kinnin, now computer services manager, also knows firsthand how expensive it is for a company to send its Macintoshes out for repair and pay for the parts through a dealer or a service organization. Now, he can buy a disk drive directly from Apple at considerably less cost than from a dealer.

Add in labor costs, and Kinnin figured Ernst & Young would save a bundle by hiring him to run an internal repair shop instead of paying for his time as a consultant. Kinnin charged Ernst & Young $1,500 in labor costs for three days of work as a consultant for a dealer.

"It boiled down to my telling them they were throwing their money out, when they could have someone on board," Kinnin said.

Once hired, Kinnin was adamant about doing the repair work himself.

"I know how much service companies charge in New York: $85 an hour just to open up a Mac," he said. "So why should I take a machine there and have them open it up when we're capable of doing all that ourselves?"

Seattle First National Bank achieves about a 3-to-1 cost savings by repairing all its computer equipment internally.

"That's a very broad evaluation, but with that kind of approximation, we don't need to go much further into detail," said Bob Bowman, vice president and general manager of SeaFirst.

Retaining control. Silva, Kinnin and Bowman all agreed that retaining control of the repair process was an even greater advantage than labor and parts savings.

"Things are fixed right away, and they are fixed right the first time," Silva said. "We can swap machines, and our mechanics take the problem machine to the shop. We get a much higher quality of service in a shorter period."

Sending a board to a dealer who then sends it to Apple can be time-consuming and frustrating, said Kinnin. "By the time a board gets to California, the service technician has no idea what's wrong with it," he said.

A machine with a bad power supply, for example, might exhibit only sporadic problems, so a dealer would have to leave it on a bench for hours to test it. Even worse, Kinnin said, is to have a dealer come on-site to check out a faulty hard drive, find nothing wrong, and then charge the customer, even though the drive still isn't fixed.

"That happens here, but it's a lot easier for me to test it, and I don't charge $85 an hour," Kinnin said.

Bowman said he found turnaround time to be a critical issue. "Right now, we can generally have someone on-site within two hours of the failure of anything significant," he said.

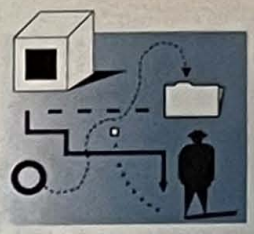
Internal repair shops also enable companies to conduct ongoing problem analyses. By tracking repair calls, for example, SeaFirst's in-house maintenance organization can discern if recurring problems are associated with user training or with hardware design, Bowman said.

Setting up is hard to do. Despite the benefits of having an

See Repair, Page 50

In-house vs. vendor repair

ITEM	IN-HOUSE	VENDOR
Cost of parts 20-Mbyte hard disk, for example	$389	$429
Average turnaround time	1 day	1 to 3 days
Response time	2 hours	1 day
Service hours	24 hours, 7 days a week	9 a.m. to 5 p.m.
Repair visits until problem fixed	1	Several
Labor costs	Salary & benefits of staff	$85-100 per hour (N.Y.)
Set-up costs	$395 per person for Apple-certified training; $5,000 for initial start-up with Apple, including parts and training	—



One-minute MANAGER

View By View doesn't have to be by you

San Francisco — In the business of architecture, presentations can be the key to convincing clients and special-interest groups of a plan's suitability. Microcomputer-based technology can extend those presentations in ways unforeseen even five years ago. Today, computer-proficient users can create simulations that visually walk the client through the proposed building. A variety of Macintosh software, for example, can produce presentations that move from room to room and floor to floor. But creating such presentations requires time as well as in-depth knowledge of the software, and not all architects possess those attributes in equal measure.

Enter View By View: Computer-Aided Architectural Visualizations. The San Francisco-based service bureau can provide perspective renderings and animated simulations. Visualizations vary from simple line-drawing perspectives taken from virtually any vantage point to rendered images that are electronically integrated with scanned-in photos of the project's surroundings.

"This capability is important because it saves what we have the least of, which is time," said Mike Willis, an architect and View By View user. "In addition, I now have the ability to create a series of variations on a concept, negotiate mitigations and then turn the agreed-upon solution into architecture. Without it, it's a game of dueling diagrams."

At the movies. View by View creates its visualizations primarily with Gimeor Inc.'s 2-D and 3-D Architrion II CAD software and ArchiMovie walk-through package. MacroMind Director comes into play for special effects and titles. Adobe Photoshop electronically manipulates a photographic image of a site to add the proposed building and landscaping. According to View by View, designs can be accepted in AutoCAD's DXF (Drawing Interchange Format) either on floppy or by modem, or as hard copy from which the company manually inputs coordinates.

That design is entered in Architrion, which can generate multiple perspectives. Such drawings are "faster and cheaper than building a scale model or producing hand renderings, and much more accurate," said Franz Steiner, an architect who uses View by View's services. And because the drawing exists in electronic form, it can be revised relatively quickly, Steiner said.

Besides generating perspectives, Architrion can render surfaces and add shading. ArchiMovie, which works in the background under MultiFinder, saves and sequences the rendered perspectives, compresses each file and — after producing hundreds of views overnight — presents an on-screen walk-through of the project. Presentations are then delivered to the client electronically, or in the case of single images, sent as plots.

No surprises. France Israel, president of View by View, said she started the company after years of working in construction project management. "I was appalled by the number of change orders that kept coming through, many as a direct result of the owners' delayed reaction to areas of the design that they were able to understand only during or after construction."

Added Steiner: "Now, the client can know exactly what a building will look like. And clients really like being able to participate in the design process."

View By View's fees average about $50 per hour. Manually inputting a typical building's coordinates into Architrion usually requires one week, costing $2,000 to $3,000. Plotted perspectives cost from $15 to $25 and can usually be produced in one day.

View By View is located at 2330 Larkin St., Suite 45, San Francisco, Calif. 94109; (415) 775-6926. — *By Stuart Silverstone*

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Repair

From Page 48

internal repair organization, Silva and Bowman said they probably would ship their Macintoshes out for repair if their companies did not already have maintenance groups on-site. The cost to set up a group for remedial hardware maintenance alone would be too much, both Mac managers said.

"I doubt we would have set up an organization just for Macs," Bowman said. "We'd likely seek some vendor who has the capability to [repair Macs] direct or on a subcontract basis."

According to Bowman, SeaFirst already had an in-house group for repairing all types of electronic gear when the bank added the Macintosh to its list of supported equipment in 1985.

Back then, as SeaFirst was gearing up to become one of the largest Mac shops in the country, Apple identified the bank as an authorized dealer, said Bowman. Under that arrangement, SeaFirst sent its personnel to Apple for hardware-maintenance and warranty training, and purchased spare parts from Apple.

Silva said he was able to place the Macintosh on the Richmond refinery's list of self-maintained hardware because the refinery already had a group that serviced computing equipment. With no new staffing required, the group had only to expand its role by having Apple train three mechanics and by buying spare parts.

"It would be hard to do this in-house if you didn't already have the people there," Silva said. "If you have to add people to the staff, it's harder to justify."

Kinnin disagreed about the expenditures involved in building an in-house repair shop. In addition to his salary and that of two new employees, costs for manuals and spare-parts kits are nominal, he said.

"There isn't any kind of yearly fee [to be certified by Apple], except to renew manual subscriptions, which is $540," said Kinnin, who was the sole Mac repair person for his office from 1986 until recently.

Making sense of the process. Companies that service their own Macs respond to hardware problems much as SeaFirst does. Users report equipment failures to a help-desk staff, which determines if the faults are with the user, software, hardware or host applications. For hardware-related trouble, repair technicians go directly to the sites, discuss the problems with the users and write out repair tickets. The "trouble tickets" initiate the tracking and analysis of problems.

Chevron's Richmond refinery, SeaFirst and Ernst & Young are all Apple national accounts, which enabled them to set up their own Macintosh repair groups. But smaller companies have the same repair issues.

If technicians can't fix the problems on-site, they lend the users replacement machines and take the faulty units back for repair.

In addition to its seven regional level-1 service centers supporting 225 branches and offices throughout the state, SeaFirst's level-2 central repair depot is qualified to perform more-sophisticated repair work as well as simple board swapping, Bowman said.

What about smaller companies? Chevron's Richmond refinery, SeaFirst and Ernst & Young are all Apple national accounts, which enabled them to set up their own Macintosh repair groups.

But smaller companies have the same repair issues. And while they are not eligible to buy spare parts directly from Apple, they can send their technicians for Apple training so that they, too, can repair some of their own Macs.

Sonya Brockstein, network manager with Allegiance Capital, a mergers-and-acquisitions finance company in Stamford, Conn., obtained her Apple training certification so she could take care of small hardware glitches herself.

As a technician in a dealer-sponsored service organization, Brockstein is responsible for 12 local and several remote Macs. She can take care of simple repairs, diagnose larger problems and send the faulty machines out for repair.

"If someone's on the road and calls me, I can intelligently guess at what the problem might be and then direct them toward the appropriate service provider," Brockstein said.

"It saves time, and if it's something simple, I might as well do it in-house. I wouldn't want to have to lose a machine for a day because of something as simple as swapping out a hard drive." □

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Tech Files

System 7.0 may leave average user behind

BY JOEL WEST

As everyone knows by now, next year's System 7.0 will offer more of everything.

But more is not always better. Despite Apple's pioneering efforts in ease of use, System 7.0's power for sophisticated users adds a level of complexity that leaves other users behind.

Don't get me wrong; it's still easier to set up a FileMaker database than one in dBASE IV, or a LocalTalk network instead of NetWare. But when it comes to ease of use, the Mac isn't what it used to be. And for that matter, Word 4.0 isn't MacWrite 4.1, SuperPaint 2.0 isn't MacPaint 1.0, and Finder 7.0 isn't Finder 1.1g.

Gone is the simple elegance of the original Macintosh 128K. Now, Apple is intent on positioning System 7.0 to compete with Windows 3.0 and OS/2. The revised System, Finder and associated utilities are replete with features that will appeal to hard-core enthusiasts.

Subscribing to and publishing Interapplication Communications editions may be snazzy, but how relevant is it to the average user? Many of these features will increase users' dependence on their local "Mac guru."

The average user's eroding self-sufficiency also can be attributed to the Mac's inevitable shift from cult machine to just another business computer.

The early adopters were all Mac fanatics, but Apple has worked hard to expand its market beyond fanatics. Many people no longer use the Mac because they love it, but because it's part of their job. The Mac requires training, support and administration — just less of it than its competitors.

Most sites require their own system administrator, whether officially or by default. Hardware fails, network connections are accidentally severed, or maybe it's just time to upgrade all 27 CPUs to System 6.0.5.3.

The number of Mac users who can adequately tune the system heap is comparable to the percentage of DOS users who can write an AUTOEXEC.BAT file.

Even when things are installed and running smoothly, the Mac is a far more complex machine to run than when it was introduced, the result of a bad case of creeping featurism.

A typical problem for novices has been the increased complexity of the Open and Save As commands, which have little to do with the more elegant and understandable folder metaphor. Few novices I've watched grasp the hierarchical structure of their hard disk. Instead, they leave documents in the application folder, because that's the folder they get by default.

A recent Macworld magazine survey of its readers established MultiFinder as a tool for the privileged few. Of those surveyed, 60 percent said they used used it seldom or never, 13 percent used MultiFinder sometimes, and 27 percent used it most or all of the time. Anyone who thinks it's just a lack of RAM has never watched a novice fumble through multiple applications on a 9-inch screen.

But complexity is not a problem only for novices. I once felt a mastery of my Mac until I discovered hard disks with non-viscous lubricating grease, head crashes, low-cost power supplies and SCSI timing problems.

And today, faced with a mysterious software crash, my instinctive reaction (justified or not) is a trial-and-error process of turning off INITs until the problem goes away and, I hope, never reappears.

System 7.0 does offer some improvements in ease of use. Bubble help will give more clues to the average user. A pop-up menu will become a more obviously clickable item, and that will make the Open and Save As commands easier to use. The Font/DA Mover has earned its retirement. And Laser Prep wars will soon become a nightmare of the past.

But some of System 7.0's improvements could prove to be a handicap to new users. For example, Apple-menu aliases can be set up to make it foolproof for a novice to access favorite applications and often-needed documents. But there's the danger that such users would come to depend on those preconfigured options, unable to comprehend and use someone else's differently configured Mac.

When it comes to empowering the individual, today's Macintosh is no Knowledge Navigator — or even a Macintosh 128K. □

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MacWEEK'S GRAPHIC ARTS REPORT

31 July 1990

Looking for input on which video board to buy and what features you need?
See Page 59.

Three ways to cope with the flood of video data.
See Page 59.

Adobe reaches new Level with color model

By Cliff Lehman and Anita Malnig

Mountain View, Calif. — With its recent announcement of a device-independent color model as part of PostScript Level 2, Adobe Systems Inc. has tackled head-on one of the most complex problems facing the publishing industry today. While the success of the model is by no means ensured, analysts give Adobe high marks for the quality of its model.

Since the advent of desktop-based color, pre-press users have been caught in a quagmire of inconsistencies among software, monitors, scanners and output devices. The way to solid ground has long been seen to entail some means to mix and match software and equipment from different manufacturers and still achieve consistent color output.

Adobe is proposing an ambitious model for a solution. The company has put together an offering based on the CIE 1931 (XYZ) colorspace standards (see glossary, next page), transformations to other models such as CMYK (cyan, magenta, yellow, black), provisions to accommodate particular devices, and calibration tools.

The Adobe model contains a mechanism that transforms CIE color definitions to device-specific information by use of colorspace dictionaries and color-rendering dictionaries. A typical RGB (red, green, blue) file is redefined within the PostScript interpreter to the XYZ model; that description, in turn, is handled by the color-rendering dictionary specific to the output device (also in the interpreter) to ensure consistent output is produced, despite the characteristics of each device.

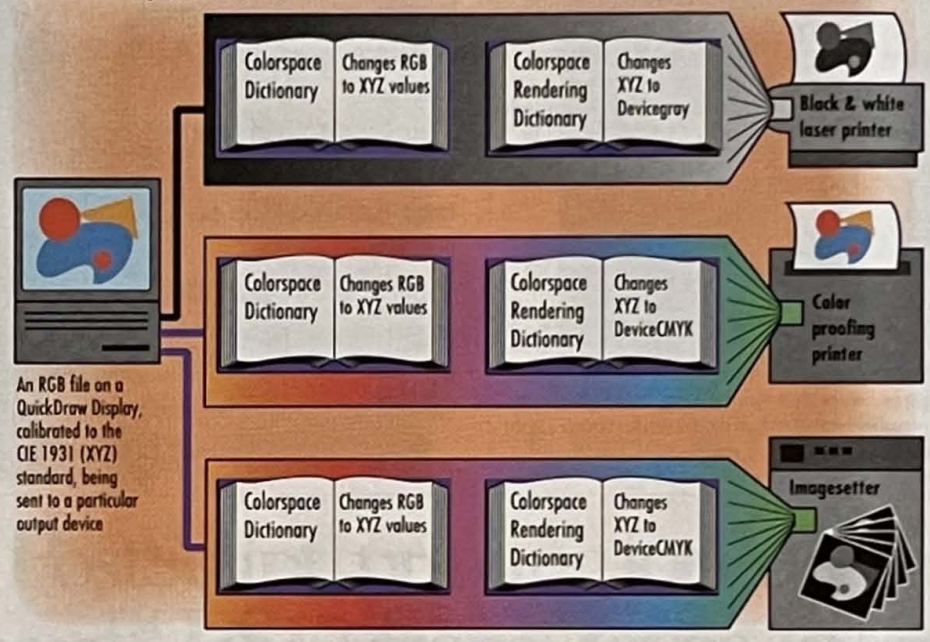
The color-rendering dictionaries will be resources, some provided by Adobe, some custom-written by device vendors or users.

Adobe is even suggesting that through dictionaries you will be able to address the specific characteristics of a target printing press through dictionary-based adjustments to imagesetter output.

The result, according to Adobe, will be an

See PostScript, next page

Device-independent color: A first look at how it works


An RGB file on a QuickDraw Display, calibrated to the CIE 1931 (XYZ) standard, being sent to a particular output device
Colorspace Dictionary
Changes RGB to XYZ values
Colorspace Rendering Dictionary
Changes XYZ to Devicegray
Black & white laser printer
Colorspace Dictionary
Changes RGB to XYZ values
Colorspace Rendering Dictionary
Changes XYZ to DeviceCMYK
Color proofing printer
Colorspace Dictionary
Changes RGB to XYZ values
Colorspace Rendering Dictionary
Changes XYZ to DeviceCMYK
Imagesetter

PostScript Level 2 features

- Improved halftoning
- New color models
- JPEG (Joint Photographic Experts Group) color compression
- Forms (cached and prerasterized)
- Support for printer features (trays, paper sizes, stapling)
- Improved memory management
- Composite fonts (for languages like Japanese)
- Patterns (MacDrawlike tiling patterns)
- Improved speed

Managing with Macs in the newsroom

By Carolyn Said

Las Vegas — The Mac still lacks workgroup-management and database capabilities, as well as power word processing and copy-editing features necessary for newspaper production, according to professionals attending the American Newspaper Publishers Association/TEC '90 show here in June.

In an attempt to convince publishers that the Mac, in conjunction with other platforms, can be a bulwark of a total newspaper system, developers are addressing these deficiencies.

▸ **Databases and workgroup publishing.** System Integrators Inc. of Sacramento, Calif., one of the country's leading newspaper vendors, has integrated Macs with its Tandem-based System/55 system. "The systems guys want to pull the Macs into the fold, completely integrate them into the main publishing system instead of having little islands of Macs," said Steve Nilan, SII marketing director. He said SII's Mac/55 solution will solve the problem and the Mac's database deficiencies.

Printer giant Linotype AG of Eschborn, West Germany plans a 1991 release for Lino-Press System, its turnkey Mac-based newspaper solution that uses a Unix file server running a SQL database. P.INK Software Engineering GmbH & Co. of Hamburg, West Germany, also plans a 1991 release for P.INK Press, an integrated workgroup-publishing solution with a SQL database running on a Mac server.

Baseview Products Inc. of Dexter, Mich.; Synaptic Electronic Publisher of Excelsior Springs, Mo.; and Managing Editor Software Inc. of Elkins Park, Pa., offer QuarkXTensions software that adds workgroup-management features to QuarkXPress. Baseview and Synaptic have XTensions for other newspaper-related functions, including wire-service capture and advertising management and layout.

▸ **Word processing and copy editing.** "The newspaper industry is very happy with the features of Coyote and Atex terminals, and with XyWrite software on DOS platforms," said Bruce Adomeit, news-technology coordinator for the Minneapolis Star Tribune.

In response, QuarkXTensions developers North Atlantic Publishing Systems Inc. of Carlisle, Mass., and John Juliano Computer Services Co. of Decatur, Ga., provide XTensions that let XPress import data from XyWrite and Atex, respectively. □

Newspaper seps on 'bleeding edge'

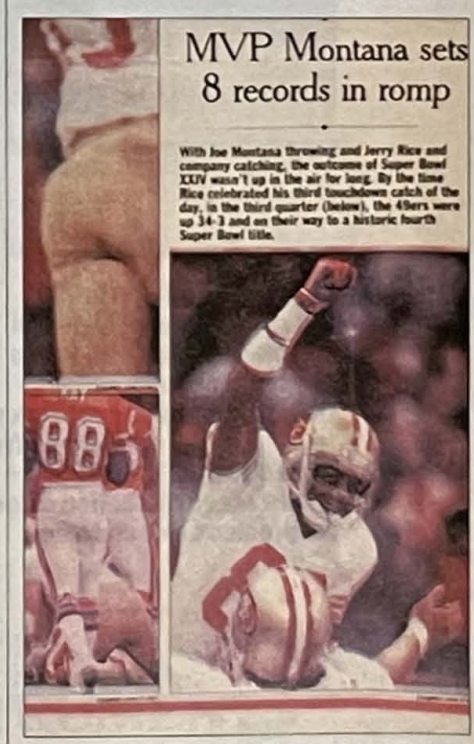
By Pamela Pfiffner

San Francisco — The San Francisco Examiner is learning about integrating digital color photography into its pages the hard way — by trial and glaring error. Perhaps the most valuable lesson the daily newspaper has learned is that you can't shoehorn whiz-bang new technology into time-honored practices and expect a perfect fit.

"The Examiner has gone out on the bleeding edge of technology," said David Cole, formerly an Examiner assistant managing editor who helped the paper convert to Macintosh-based photography and now head of The Cole Group, a newspaper-consulting firm based here. "There are very few papers in this country that are doing digital color separations."

Innovation has its price, however. Since Mac-based separations began appearing in The Examiner last fall, even casual readers have noticed that its color photos are often registered incorrectly, with visible color casts, moirés and little shadow detail.

See Examiner, Page 56


MVP Montana sets 8 records in romp

With Joe Montana throwing and Jerry Rice and company catching, the outcome of Super Bowl XXIV wasn't up in the air for long. By the time Rice celebrated his third touchdown catch of the day, in the third quarter (below), the 49ers were up 34-3 and on their way to a historic fourth Super Bowl title.

In one of The San Francisco Examiner's less-successful attempts at desktop color, note the registration problems and color casts. The paper has largely corrected these problems.

PostScript

From previous page

environment that ensures consistent, quality reproduction of color.

"Adobe has done a very good job," said Jonathan Seybold, publisher of The Seybold Reports in Malibu, Calif. "But the problems won't go away with device-independent color. We are trying to make it easier and more intuitive, but we are not going to make it foolproof."

Adobe expects the first PostScript Level 2 products to be out by early 1991; a new version of the "Red Book" (the PostScript Language Reference Manual, Second Edition), which documents PostScript Level 2, will be published in the fourth quarter by Addison-Wesley Publishing Co.

PostScript Level 2 glossary

Device-independent color: The capability to specify a color according to a standard to ensure that PostScript files will produce consistent color regardless of the PostScript Level 2 device used to output the image.

CIE color models: The device-independent color spaces supported by PostScript Level 2 are based on the CIE 1931 (XYZ) space, a standard for specifying color by the Commission Internationale de l'Eclairage. Those standards supported by PostScript Level 2 are CIEXYZ, CIEY, CIELAB and CIEL, some of which are being used by ink and paint manufacturers for color definition.

Color-rendering dictionary: A PostScript-language dictionary that provides information that the interpreter will use to translate the intermediary CIEXYZ color values into other color values such as CMYK, RGB or gray scale. Developers can provide their own proprietary way of translating the CIE values to device-specific color models.

But for device-independent color to be a reality, it must, by definition, be an industry standard. Most in the industry are confident of the underlying CIE color space, but it will require much effort and cooperation on the part of software and hardware vendors and a massive change in the printing business before users will see its benefits.

"You'll see people embrace this," said Rob Babcock, PostScript Level 2 product manager at Adobe. "There were a lot of people beating at our door asking us to put a stake in the ground and give them something to work on."

But Babcock said the changes may not be immediate. "It's going to take a lot of work for the front end to take advantage of specifying CIE colors and for devices to use them," he said.

Although the impetus for device-independent color is coming from the desktop, high-end vendors are bound to follow.

Seybold was more optimistic: "It will go to color pre-press relatively quickly. I see no reason that it won't happen next year."

But some are skeptical about any immediate change in standards. "Adobe should be congratulated for taking on such a big challenge," said John Seibt, quality assurance manager for the Dallas Times-Herald newspaper, "but in proposing to deal with printing-press issues, they are opening up a Pandora's box of variables that no one knows how to quantify, among them ink hue error, press gain variation, differences in paper stock and ink drydown." Seibt said he believes that Adobe may find it easier to propose standards than to make them apply outside the narrow confines of PostScript. □

A tribute to Sarah

OUR VOICE IN TODAY'S WORLD
EMERGE
A TRIBUTE TO
SARAH VAUGHAN,
ARETHA, DIZZY, RAY, ELLA & OTHER CLASSIC PERFORMERS
The Beat of Africa
Rebirth of a Chicago Legend
South Africa's Black Middle Class

New York — To eulogize the late Sarah Vaughan and to celebrate Black Music Month, Emerge, a new magazine directed at the black community, ran this colorized image of the jazz singer on its June cover.

Emerge Art Director Pamela Fortson hired artist Bill Lombardo of Goodsight Graphics Inc., based here, to retouch the original black-and-white photo, using Letraset's ColorStudio. Lombardo, who beta tested ColorStudio for 18 months, said the application is "like my right hand at this point."

Lombardo also used Adobe Photoshop to rescale and rotate the original black-and-white image. (Letraset has since added this feature to ColorStudio.)

Fortson was very specific about the coloring of the skin tones; she wanted something subtle yet colorful, but nothing garish. With its faded patina, the result is similar to old-time photo tinting.

Fortson didn't trust ColorStudio for the final integration of the logo and text, so Lombardo used the Shapes Annex to preview type size, color and placement. Thus, he was able to offer Fortson a palette from which she could choose the colors of ink for the lettering, which was traditionally stripped in. The final image was output on a Crosfield imagesetter. — *By Jennifer Ambrulevich*

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Sharp's new JX-600 brings the capabilities of high-end commercial scanners to the desktop. It scans slides, transparencies and artwork up to 11" x 17", at resolutions from 30 to 600 dpi. The JX-600 uses a range of 1 billion colors for precise color matching.

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POSTSCRIPT™

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Examiner

From Page 53

"We are practicing in public with color," said Pamela Brunger Scott, the paper's deputy managing editor.

Much of the burden of solving The Examiner's color pre-press problems has fallen on Chris Gulker, a news photographer and Mac enthusiast who has become the paper's desktop expert. Gulker's job is complicated, however, by an earlier management decision to update the daily's printing facilities at virtually the same time it went color. The Examiner is now printed on flexographic presses that use water-based inks and flexible, cost-efficient plates.

"There's a rule in writing software: Never change two things at once," Cole said. "The same is true for printing. The Examiner changed the printing process and changed the way they do color at the same time, so they had to work with two variables: press work and desktop color."

On the editorial side, negatives are scanned with Nikon LS-3500 or Leaf Desk slide scanners and then separated in Adobe Photoshop, where transfer parameters must be adjusted to compensate for dot gain. Separations are recorded to a Linotronic 500 at a resolution of 846 dpi.

The film leaves the editorial department and is developed by production personnel from the San Francisco Newspaper Agency, the joint operations arm of The Examiner and The San Francisco Chronicle.

In order to send the separated file to the printing plant, film positives are rescanned with a Crosfield Pagefax set at a higher resolution of 1,270 dpi to avoid loss of detail. The file is transmitted to a microwave dish across San Francisco Bay and bounced down to the plant, where plate negatives are developed.

Polymer plates are created with these negatives on a Hercules flexo plate-making machine. Plates are crimped or bent to match press cylinders; then printing begins, with all its variables of impression density, ink density, paper quality, and basic press operation and maintenance.

"The number of combinations gets huge in a hurry," Gulker said. "A small change in input can make a large change anywhere. We're trying to nail down anything that can be nailed down."

Calibration is a key issue, not only calibration of the Radius monitors, but calibration of the Macintosh, the Linotronic and eventually the entire system. Every negative is prescanned and recalibrated. Scans are now double- or triple-sampled as well, for greater detail.

While Gulker grappled with black generation curves and undercolor removal, the San Francisco Newspaper Agency began its transition to color and the digital system. Press operators used to working in black-and-white were wary about suddenly being responsible for registering color separations. "We're taking guys who poured hot lead for metal plates on letterpress and telling them to try color separations on a Mac," Gulker said.

Engravers who had been responsible for photographic plates were not pleased that the newsroom was doing its work. "The Mac gave the photographer control of the press," said Gulker. "But engravers can interpret work. They have tremendous knowledge of an arcane field." For that reason, The Examiner pulled in engraver Tom Kelly from the print shop to lend his expertise. Together, he and Gulker try to merge their respective technologies.

It hasn't been easy. "What's lost in the conversion [from engraving to digital] is the craftsman's eye," Cole said. As editor Scott put it: "Tom talks dots and shadows; computers talk curves and percentages."

Allowances also must be made for the flexographic presses that lay down ink much more densely; the Newspaper Agency's flexo presses are even more troublesome, because they are retrofitted letterpresses. Tests revealed that ink density set at 1.02 often drifted to 1.2. "That we can begin to match a problem press really speaks for the Mac," Gulker said.

Now that the production end is starting to come under control, the pre-press side is coming back into focus. "The importance of input is showing up; the better the scanner, the better the picture," Gulker said. "It used to be that we'd see one thing on the monitor, and God knows what you'd see on the press. We are getting to trust what we see on the monitor."

Above all, The Examiner has learned that quality-control programs are essential. Logs are now being kept to track trends in wire services, equipment and so on.

The problems facing The Examiner are not unique, as other papers who try color digital photography will discover. "The number of papers that are eager to go forward with this is inversely proportional to their experience with digitized images," Gulker said.

"This is a paper that takes chances all the time," said Larry Kramer, executive editor of The Examiner. "Today the color looks great, but some days are a total embarrassment." □

AMAZING STORIES.

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The HyperMedia Group, Emeryville, CA

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Patrick Lynch, Yale University

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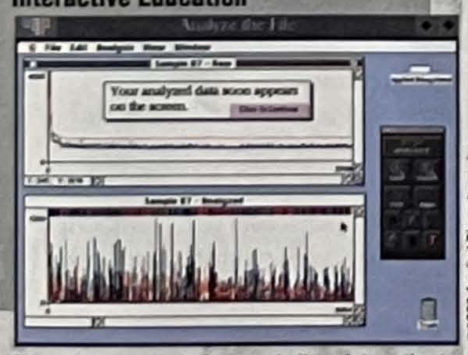

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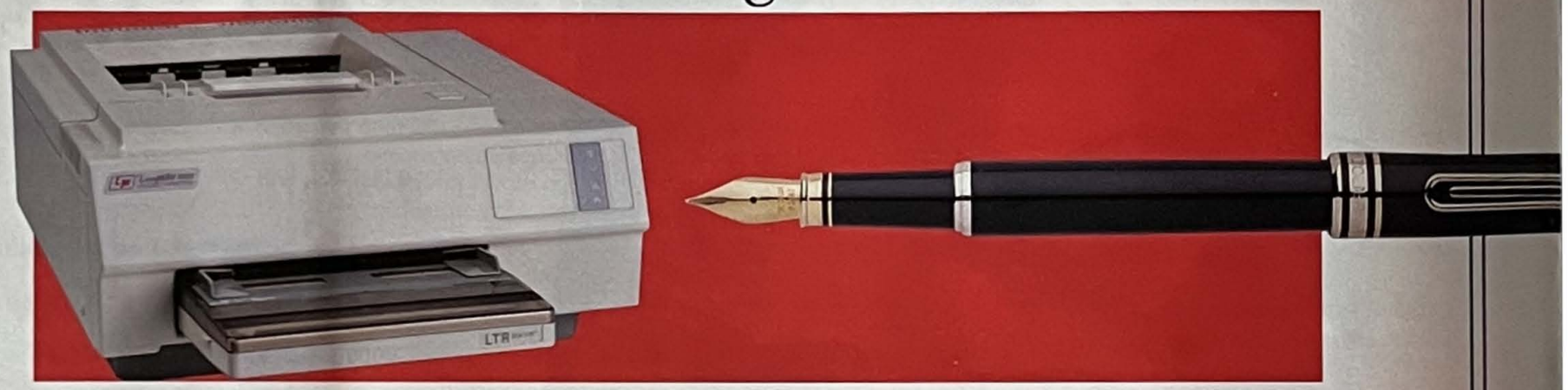

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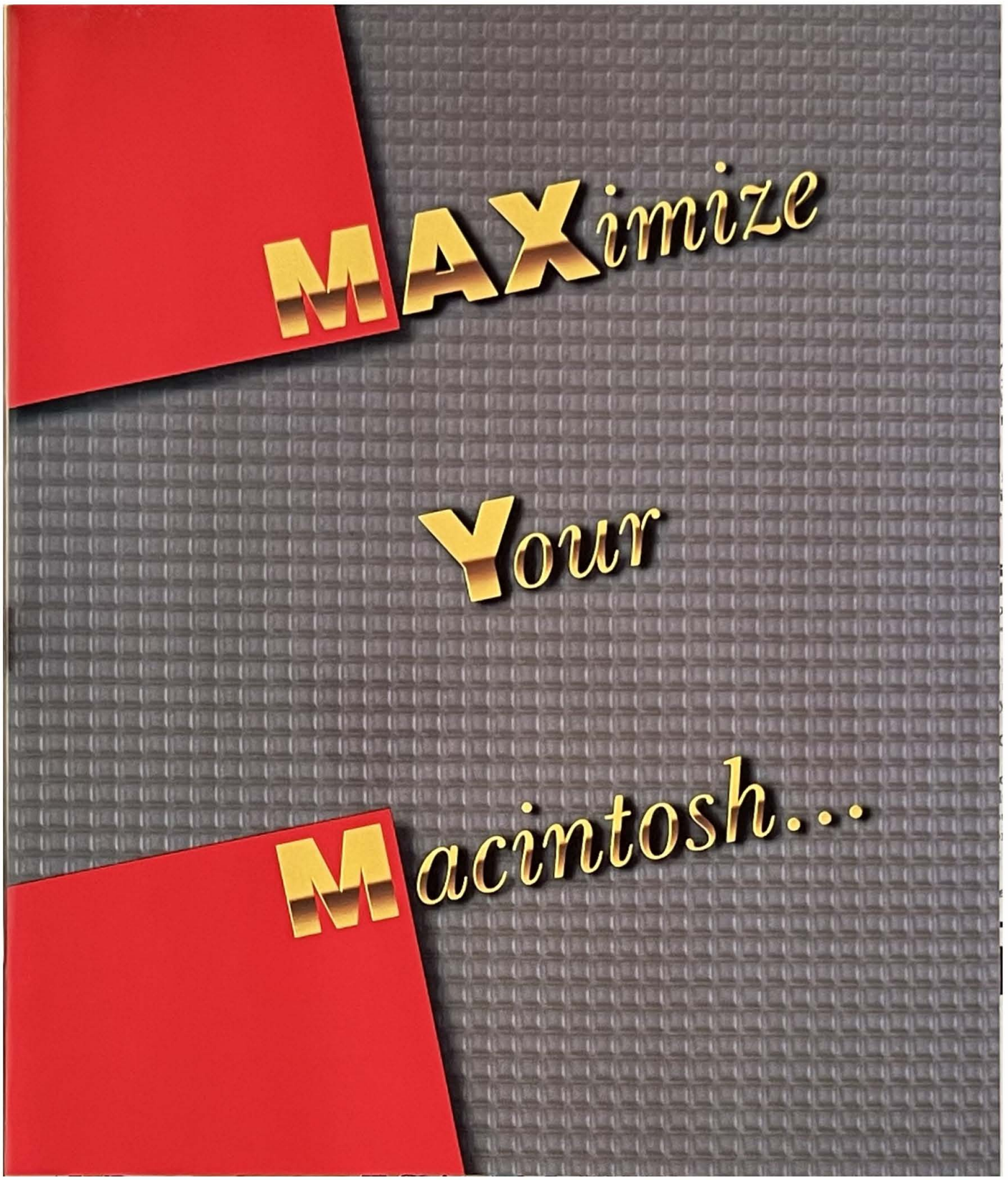
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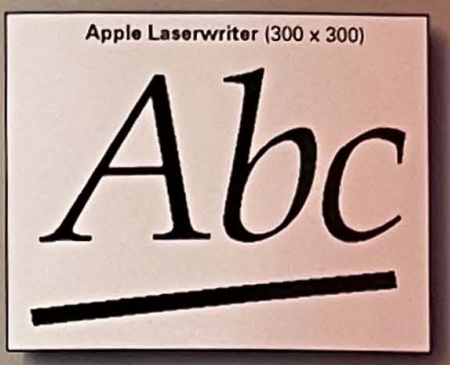
This 45 point type was originally printed at 100%, then enlarged 200%.

Apple Laserwriter (300 x 300)



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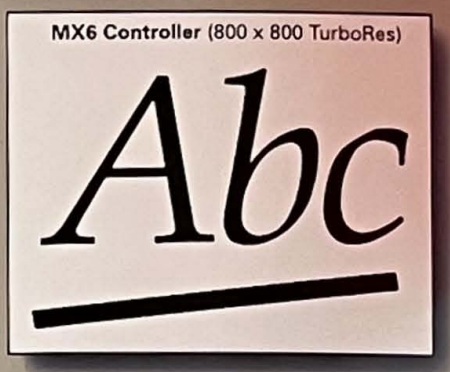
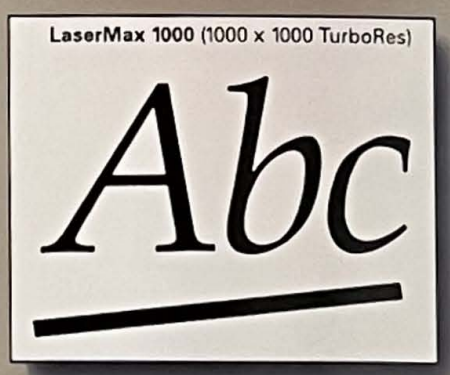


LaserMax 1000 (1000 x 1000 TurboRes)



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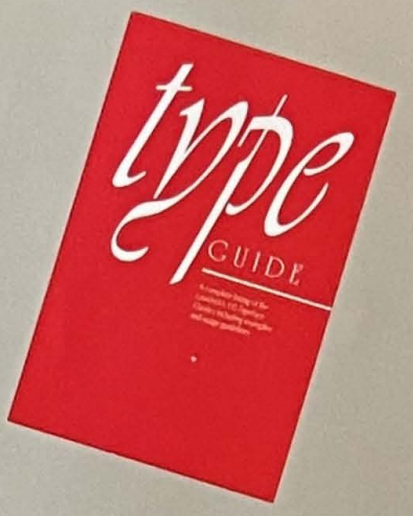

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The quest for Mac video input

All video boards can digitize video for the Mac. The question is, what features do you need and how much are you willing to pay?

By Clay Andres

Mac video input? No problem. At least a dozen manufacturers have made the process simple. Plug in a NuBus card, connect it to a video source (a VCR, camera or videodisc player), and you're ready to convert composite video into digital, Mac-displayable information.

Or are you? While it's true that all video boards can digitize a frame of video for use on the Macintosh, there is a great disparity in price and ease of use, as well as in the amount of time it takes to perform a frame-grab, in color depth capabilities, in resolution and in image-manipulation capabilities.

So the hard part is deciding which combination of features you need and how much you're willing to pay for it (see chart, next page).

Do you need color, and how much? When you're viewing images on a Mac screen or in print, it's easy to see the difference between 24- and 16-bit color. However, if you're going back out to video and viewing on a TV monitor, 16-bit color is sufficient because the NTSC (National Television System Committee) standard is incapable of displaying the millions of colors potentially available with 24-bit.

This is why a high-end board such as the Moonraker from Workstation Technologies Inc. of Irvine, Calif., can get away with displaying in 16 bits. (It can capture 24-bit images.) For those who require 24-bit color capabilities, the newer boards such as the RasterOps ColorBoard 364 from RasterOps Corp. of Santa Clara, Calif., or the ColorSnap-32 from Computer Friends Inc. of Portland, Ore., do support it. Many desktop publishers, however, still use eight-bit boards such as Personal Vision from Orange Micro Inc. of Anaheim, Calif., because gray scale is sufficient for most print applications.

When do you need real-time frame-capture? Video runs at 30 frames per second, so capturing a frame in real time takes one-thirtieth of a second. Because desktop publishing and graphics applications are more concerned with single images, there is less demand for real-time capture capabilities.

You can get high-quality color with boards such as the ColorSnap-32, budget color with ComputerEyes from Digital Vision Inc. of Dedham, Mass., or gray scale with MicroTV from Aapps Corp. of Sunnyvale, Calif., without paying for real-time capture features.

Boards such as ColorCapture from Data Translation Inc. of Marlboro, Mass., NuVista from Truevision Inc. of Indianapolis, and Moonraker provide real-time capture for a price.

The RasterOps ColorBoard 364 was the first 24-bit board to break the $2,000 barrier with real-time capture, and the QuickImage board from Sunnyvale, Calif.-based Mass Microsystems Inc. broke the $1,000 barrier when it shipped this month. It's worth noting that the ColorBoard 364 serves as both a capture card and graphics card; the QuickImage does not.

Data Translation's QuickCapture eight-bit board can capture gray scale in real time or, taking three captures not in real time, assemble a 24-bit image in software.

Can you work with a fixed window size? Some boards have a fixed resolution or image size. A MicroTV window can be only 1.5 by 1.8 inches, while Aapps' monochrome and color DigiVideo models also can display in a 3-by-3.6 inch window. Many applications such as picture databases or security applications with identity portraits need only a small screen window.

Other boards, such as the NuVista, ColorSpace and ColorBoard 364, can adjust to fill a large screen or a corner with video. Moonraker can fill multiple windows on multiple monitors from two sources simultaneously. The larger the image, the more memory the board requires and the higher the cost (see story below).

See Video input, next page

Video input boards

Manufacturer	Product	Price
Aapps	MicroTV	$395
Aapps	DigiVideo	$595
Aapps	DigiVideo Color	$995
Computer Friends	ColorSnap-32	$995
Data Translation	QuickCapture DT2255	$1,295
Data Translation	ColorCapture DT2270	$2,995
Digital Vision	ComputerEyes	$250
Digital Vision	ComputerEyes Professional	$450
Mass Microsystems	QuickImage	$995
Mass Microsystems	ColorSpace IIfx	$2,499
Mass Microsystems	ColorSpace IIi	$2,299
Orange Micro	Personal Vision	$1,499
Radius	RadiusTV	$2,795
RasterOps	ColorBoard 364	$1,995
Truevision	NuVista (1 Mbyte)	$2,495
	(2 Mbyte)	$4,995
	(4 Mbyte)	$6,495
Workstation Technologies	Moonraker	$2,995

Workstation Technologies' Moonraker board, which displays in 16-bit color, can do special effects such as rotation, clipping or image processing, which are useful for video production. The board is shown here (left) running under HyperCard. The video image in the foreground is tilted 45 degrees.

RadiusTV (right), the $2,795 real-time video-in system, ships with Theatrics image-processing software and a desk accessory that lets the user view two additional TV channels while another channel runs in the main window.

Coping with video data's size, speed

By Steve Rosenthal

Even a simple stream of moving video images quickly becomes a torrent of data when converted to digital form for capture, manipulation or storage. Coping with the volume and high data rate of this flood requires some special techniques and trade-offs.

If you want full color, you'll need 16 to 24 bits of color information for each of those picture elements, or a total of about 400 to 800 Kbytes. On a 13-inch screen, multiply by 24 to 30 frames per second for full motion, and the data comes pouring in at about 10 to 30 Mbytes per second. Add another 1.2 Mbps for full-fidelity stereo sound, or as little as one-eighth that much for AM-radio quality.

Even the lower values in these ranges are faster than can be handled by Macintosh standard hardware. They are also faster than you can write data to a disk over the Macintosh's SCSI connection and even faster than you can transfer between boards over NuBus.

That leaves video-systems developers three practical approaches for dealing with video data: Speed up the Macintosh, compress or truncate the data, or store video

See Video data, Page 68

A whole lotta data

Three ways to manage video information

Speed the Mac

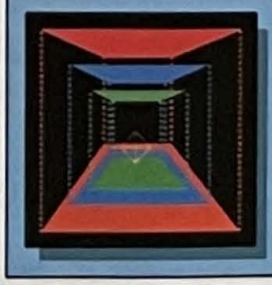
Pro: No change in architecture of Mac

Con: Not available yet

Compress the data

Pro: Works with current Mac speed and storage capabilities

Con: Not available yet



Store data externally

Pro: Available now

Con: Expensive and slow operation

KEVIN BERGER

Video input

From previous page

Do you need full-motion video? Real-time capture is necessary to display moving images from tape or videodisc. Mass Microsystems' ColorSpace IIi and ColorSpace IIfx combination, NuVista, ColorBoard 364, and Moonraker show full motion in their resizable windows; Aapps' boards enable the user to see full-motion video in their fixed windows.

Boards such as the Personal Vision and QuickImage come close to real-time display, but for video editing or multimedia presentations, anything less than real time is jerky and unacceptable. "We think in 30 frames per second, because we're in video production, and no one will get us to do it another way," said Donald Cohen, president of Cimarron Productions of Aurora, Colo., the largest audio-visual company in Colorado.

"We're thinking about 'on-demand' desktop video," said Neal Robison, a user-support analyst with Apple Desktop Services, an Apple in-house support group. "I want to be able to access a video server and watch [Apple CEO John] Sculley's latest address on my screen."

While Apple hasn't implemented video servers yet, in-house video networks are becoming more popular at large corporations.

"You need a tuner to access in-house channels or for video networks or teleconferencing," said Andrew Soderberg, a product manager at Aapps. "You don't want to have a TV set on every desk, but with our boards, you can tune into in-house broadcasts on the desktop."

Do you need to write custom applications? Interactive presentations and transactional applications require custom programs that can access the boards' functions to display or capture as needed. Most more-expensive boards have HyperCard external commands (XCMDs) and some have built-in routines for Pascal, C or MacroMind Director.

Writing custom applications is not for the faint of heart. "We've got top Mac hackers, and it took them three weeks to get started," said Ray Harstick, president of Relevant Technologies Inc. of Cambridge, Mass., who uses the Personal Vision board to develop custom video applications. "The learning curve was longer than expected."

See Video input, Page 62

The Aapps DigiVideo Color card provides quick identity portraits, such as this one for security applications.

Featured on-board

Product	Options and other features
MicroTV	Built-in cable-ready TV tuner & sound; works with any video display board
DigiVideo	Built-in cable-ready TV tuner & sound; works with any video display board
DigiVideo Color	Built-in cable-ready TV tuner & sound; works with any video display board
ColorSnap-32	Direct links to Photoshop, ColorStudio, 4th Dimension; works with any video display board
QuickCapture DT2255	Works with any video display board; developers kit available
ColorCapture DT2270	Works with any video display board; includes composite & RGB outputs
ComputerEyes	Works with any video display board
ComputerEyes Pro	Works with any video display board
QuickImage	Works with any video display board
ColorSpace IIfx	Requires ColorSpace IIi display board; does real-time on-screen effects; includes composite & RGB outputs
ColorSpace IIi	Developers kit available for IIi and IIfx
Personal Vision	External NTSC/RGB converter available; $799 developers kit available
RadiusTV	External analog box with built-in TV tuner & sound; requires Radius or other display board with block transfer; developers kit available
ColorBoard 364	External expansion options available soon: PAL, TV tuner with sound; encoder for composite output; developers kit available
NuVista	VIDI/O option, $995; VIDI/O for PAL; $1,995 programmers kit available
Moonraker	$495 RGB converter piggyback board available; extensive real-time on-screen effects; developers kit available

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Already, Adobe Photoshop software is changing the way artists work.

"Adobe Photoshop allows me to do everything creatively I've ever wanted to do," Ray Honda, Primo Angeli Design. "I can see my ideas on the monitor as fast as I can think of them."

"We've seen the future and it is Adobe Photoshop," Bob Clifford, Landor Associates. "It adds a dimension of realism we couldn't get any other way."

Bob Goodman, The WhaleSong Project: "The learning curve is so gentle, it follows me as I explore."

What's more, when you're done creating, Adobe Photoshop software starts producing. With a myriad of ways to output your finished product—slides, color proofs, even color separations.

At computer publications like *MacWorld, MacUser, MacWeek* and big city newspapers like the *San Francisco Examiner* and the *New York Times*, Adobe Photoshop is the production tool of choice. We even hear Yale University is adding a graduate course based on the Adobe Photoshop program. (Don't send in your application until you try our easy tutorial.)

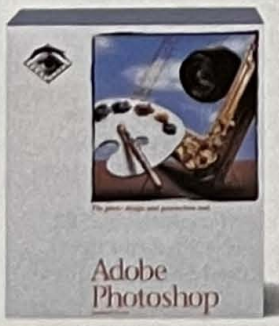
"With Photoshop, we can scan, manipulate and separate a variety of images," Sanjay Sakhuja, Digital PrePress, a Macintosh service bureau for desktop publishing and electronic prepress. "Our customers no longer have to use high-end, expensive equipment."

The question remains, how will you change the world with Adobe Photoshop? The answer appears to be, any way you want to.

For a free, full color brochure about Adobe Photoshop, check with your favorite software dealer or call 1-800-344-8335.

Photography: NASA, Curtis Fukuda and Henrik Kam

How to change the world.



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Video input

From Page 60

Do you need video effects, overlay? The most expensive boards (ColorSpace II, Moonraker and NuVista) can combine video and Mac graphics in overlays for adding text to video or for color keying. These boards also can do special effects such as rotating, clipping or image processing — useful for video production but expensive and difficult to use for most people.

"I'd like to have a software package that would allow me to have the rotated effects as part of the presentation process," said Randy Strong, desktop media director at Creative Impressions Inc., a multimedia production company in Indianapolis. "Now, you have to write a HyperCard script to do special effects, and that effectively makes it an expensive toy for most people. We need more software for the mass market."

Do you require video display capabilities, how many sources? Some boards, such as the RasterOps ColorBoard 364, include video display, so you don't need to buy another board for that function. The combination of capture and display makes the 364 an attractive buy. You are limited, however, to the Apple 13-inch or compatible monitor.

While boards such as Moonraker or Aapps' DigiVideo require additional display hardware, they are more versatile because they work with any display hardware.

But not all video sources, such as VCRs, cameras or videodiscs, can plug directly into all boards. And once you've made sure that you have the input you need, you may still find you need output capability to a VCR for multimedia and video production.

ColorSpace can input and output composite and RGB (red, green, blue) video on-board. Truevision has an external VIDI/O encoder/decoder box for its NuVista boards that can convert RGB, composite and S-Video for input and output (see NuVista+ story, below).

Still video is new and non-standard enough so that not all video input boards work with all cameras, but all of them will soon. Still video can be as good and more practical than color scanning for desktop publishing, graphics and slide presentations.

"I take my ColorSnap board, Canon ZapShot and Canon player to every presentation I make," said Russell Brown, senior art director at Adobe Systems Inc. of Mountain View, Calif. "It's extremely useful, fast and convenient. Everyone is amazed, because you take a picture and it's right there on-screen."

What about sound capabilities? There are times when turning the TV sound off is useful, yet you would never think about

See Video input, Page 64

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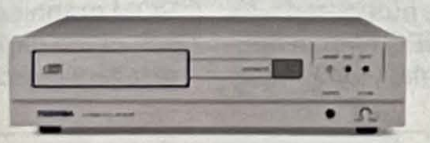

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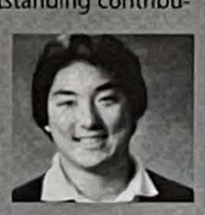

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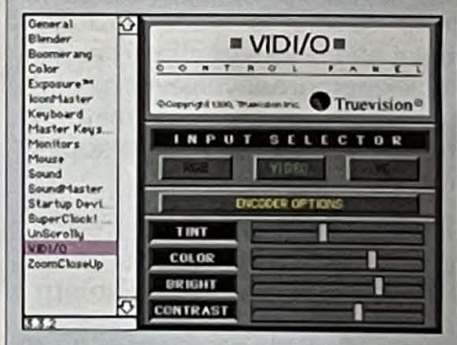
Truevision integrates I/O, adds video effects



NuVista+ features the multiple input and output capabilities of the external VIDI/O encoder/decoder.

Truevision, which claims to have been the first manufacturer to bring full-frame, full-motion video to the Mac, is announcing its second-generation product this week, NuVista+. Based on the current NuVista boards, the NuVista+ adds more integration and can be upgraded from 1 Mbyte of memory to 2 or 4 Mbytes.

The multiple input and output capabilities of the external VIDI/O encoder/decoder, previously a $1,000 option for NuVista boards, are now built into the NuVista+. Additional video effects also have been added, such as linear and chroma keying, programmable capture and display resolutions, and blending and mixing between live video and Mac-generated graphics.

All the features are being integrated into Control Panel devices (cdevs), so you can manipulate the settings through the Control Panel, making them accessible from any program.

The NuVista+ 16, the 16-bit full-frame video board configured with 1 Mbyte of RAM, is expected to retail for $2,995. The NuVista+ 32, with 2 Mbytes, is priced at $3,595. Truevision also will announce a NuVista+ with 4 Mbytes for $4,595. The board is expected to ship in August, according to the company. — *By Clay Andres*

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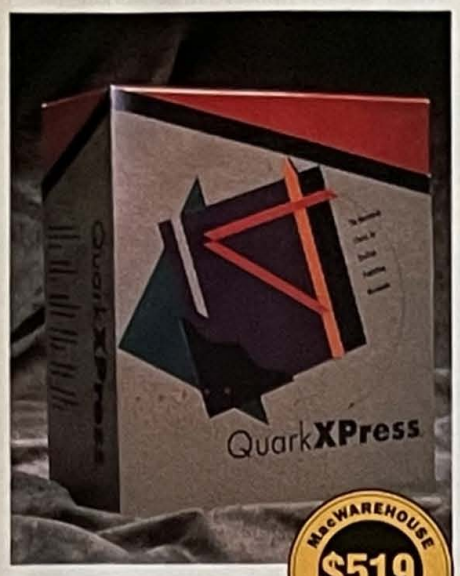

Quark XPress 3.0

(Quark) XPress 3.0 boasts a more intuitive user interface, many new features, plus redesigned and reorganized documentation. New measurement and page palettes provide the user with interactive on-screen access. A library stores frequently used items, and a pasteboard provides a work area next to each page. You can group text and graphics as a single element and rotate them a full 360 degee in 0.001 degree increments. Color trapping ensures precise color printing. **Fax*FACTS* #2509.**

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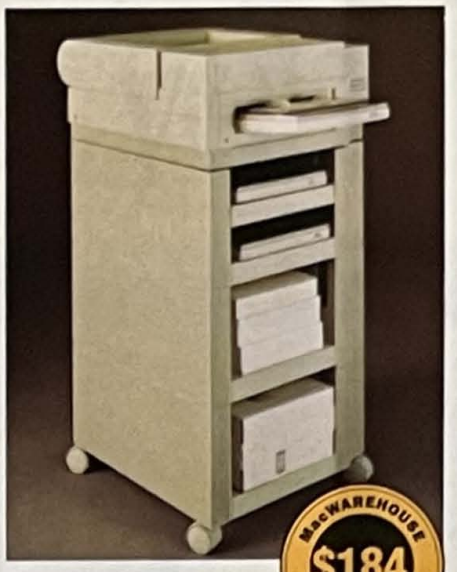
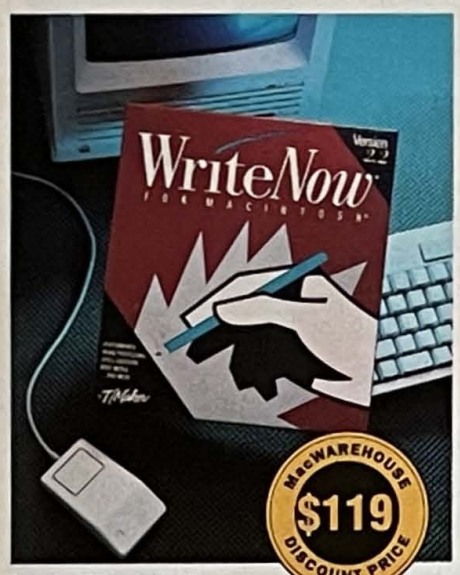


The Organizer

(Co-Star) Put your laser printer on the CoStar Organizer and you'll have a handy place for your printer and all its supplies. In addition, it will spruce up the appearance of your office with its clean design. Its cable management systems keeps wiring neat and out of sight. Beyond that, it provides a place to store extra reams of paper, plus extra paper trays and toner cartridges and casters make the whole system mobile. The CoStar Organizer even has a place to put a hard disk drive. **Fax*FACTS* #1001.**

Carbon Copy Mac

(Microcom) Carbon Copy Mac is a remote control software package for the Macintosh. It allows one Mac to remotely access and operate another Mac's peripherals, screen, keyboard and mouse. Carbon Copy Mac can be used for training, collaborating, file transfer, troubleshooting and updating software. It is the ideal Macintosh network management tool. Carbon Copy Mac can run locally over an Appletalk network or remotely with modems on both machines. **Fax*FACTS* #1753.**



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Video input

From Page 62

buying a TV or a video system without sound capability. Still, there are only two companies that include sound capability on their boards: Aapps and Radius Inc. of San Jose, Calif.

"What most manufacturers have done is bring a video signal into the Mac," said Steve Holtzman, product marketing manager at Radius. "That's good for video capture, but we believe in a more complete TV environment. There's a lot more in a TV signal than just the video image. There's sound, and no one is digitizing that yet."

Same time next year? Video is still not fully integrated into the Mac. For professional communicators, people designing custom applications and those already involved in video, there are exciting and powerful products.

"Right now, the thresholds are still a little high for the technology to be moving into the mainstream," said Doug Camplejohn, product manager for video products at Apple. "The key for video is to provide fundamental technologies in system software and hardware that will let every application be a video application."

While Apple is rumored to be working on video products of its own (there is already an Apple video-overlay card for the Apple II), the more-significant work is being done to add standard video protocols — perhaps even a video manager — to the Mac's operating system. It won't be part of the initial System 7.0, but Camplejohn expects integrated video in 12 to 18 months.

See Video input, Page 70

Video input devices: The specs

Product	CAPTURE Color depth	Resolution (pixels)	Time (in seconds)	DISPLAY Color depth	Resolution (pixels)	Redraw (frames per second)	Video in a window	SOURCES Number	Composite	S-Video	Inputs RGB
MicroTV	8 bit	128x108	1/30	8-bit gray	128x108	30 fps	•	1	•		
DigiVideo	8 bit	256x216, 128x108	1/30	8-bit gray	256x216, 128x108	30 fps	•	1	•		
DigiVideo Color	8, 24 bit[1]	256x216, 128x108	1/30	8-bit color	256x216, 128x108	22-25 fps	•	1	•		
ColorSnap-32	24 bit	640x480	1/5	8-bit gray, 24-bit color	320x240, 160x160	5-15 fps		1	•	•	•
QuickCapture DT2255	8[3]	640x480 (NTSC), 768x512 (PAL)	1/30, 4/5 @24 bit	8 bit	640x480 (NTSC), 768x512 (PAL)	5 fps		4[7]	•		•
ColorCapture DT2270	16 bit	640x480 (NTSC), 768x512 (PAL)	1/30	8 or 16	640x480 (NTSC), 768x512 (PAL)	3-15 fps		3	•		
ComputerEyes	8-bit gray	640x480	6, 24	8-bit gray	320x240	6 fps		1	•		
ComputerEyes Professional	8 or 24 bit	640x480	6, 24	8- or 24-bit color	640x480	1.5-6 fps		2	•	•	
QuickImage	24 bit	640x480, 320x240	1/30, 1/60[4]	8-24 bit color, 8-bit gray	Variable	5-15 fps (color), 20 fps (gray)		2	•	•	
ColorSpace IIfx	24 bit	640x480, 320x240	1/30	8-bit graphics, 24-bit video	640x480 (NTSC), 768x575 (PAL)	30 fps	•	3	•		•
ColorSpace IIi	8 bit	640x480, 320x240	1/5	8-bit graphics, 24-bit video	640x480 (NTSC), 768x575 (PAL)	30 fps		1	•		•
Personal Vision	8 or 24 bit	640x480	1/30	8-bit gray, 24-bit color[5]	640x480	15 fps		2	•		•
RadiusTV	1, 2, 4, 8, 16, 24 bit	Variable up to 640x480	1/30	1-24 bit	Variable up to 640x480	30 fps[6]	•	3	2		•
ColorBoard 364	24 bit	640x480	1/30	24 bit	Variable	30 fps	•	2	•	•	
NuVista	1, 2, 4, 8, 16, 24 bit	Variable up to 8,192x4,096[8]	1/30	8-24 bit	512x512, 8,192x4,096	30 fps		1[7]			•
Moviemaker	8, 16, 24 bit	645x484 (NTSC), 768x512 (PAL)	1/30, 1/10 (24 bit)	8 or 16 bit	Variable	30 fps, 2.5 (24 bit)	•	4	•	•	2

[1]24-bit capture with desk accessory included. [2]Either four monochrome composite inputs or one RGB input. [3]24-bit capture with ColorKit software included. [4]Field capture in 1/60th of a second for stop action. [5]24-bit requires external NTSC/RGB converter, $799. [6]May slow down with large window sizes in 24-bit color. [7]Additional composite, RGB, and S-Video input and output with VIDEO encoder/decoder included with 1-Mbyte model. [8]Maximum resolution is dependent on color depth and on-board memory.

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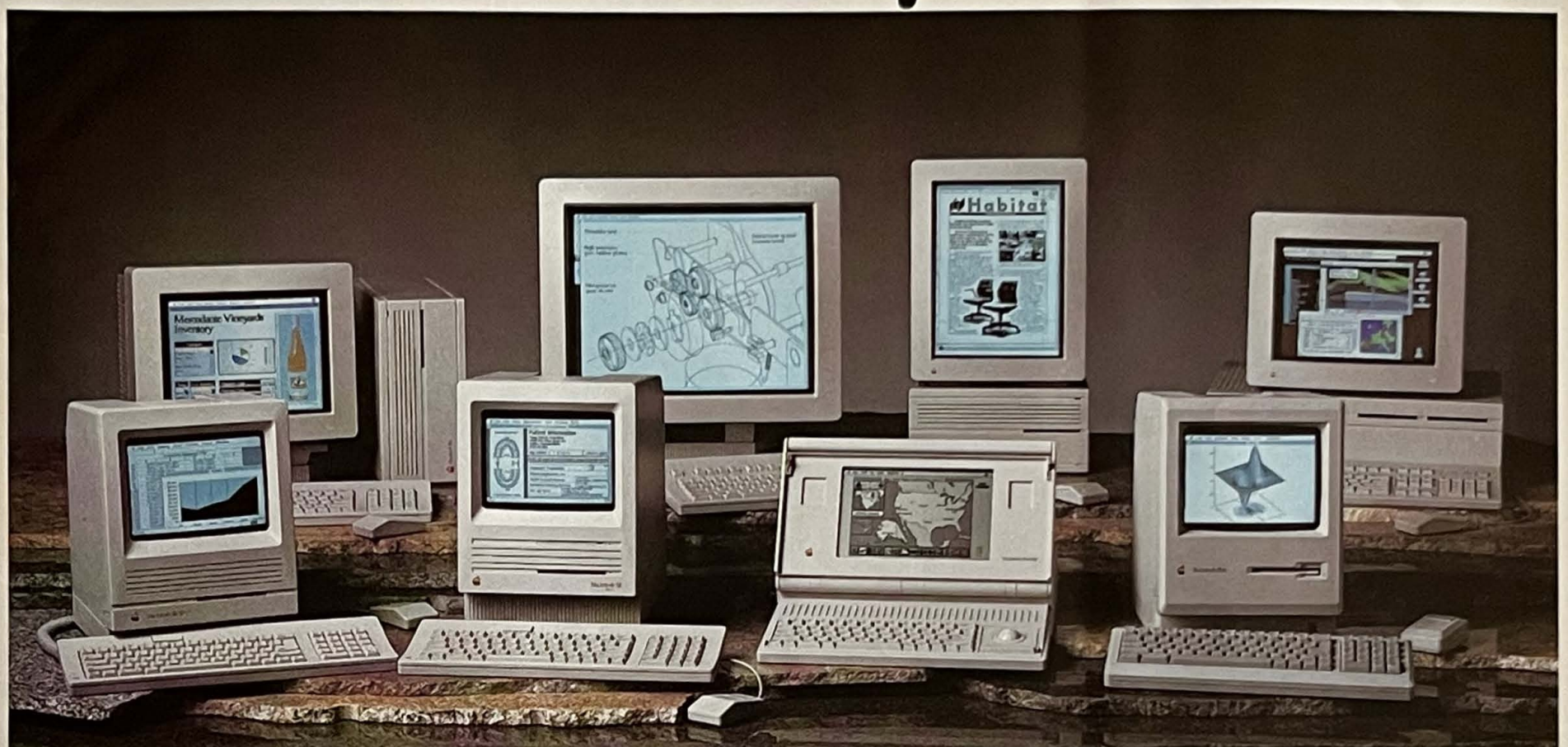

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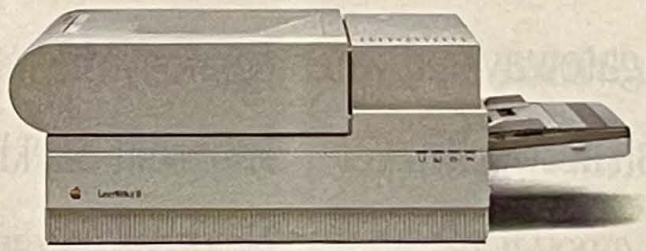

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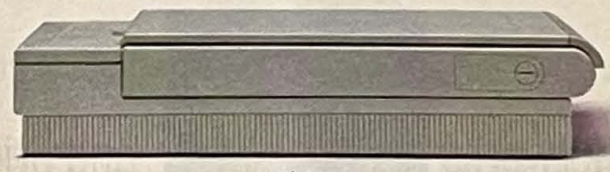

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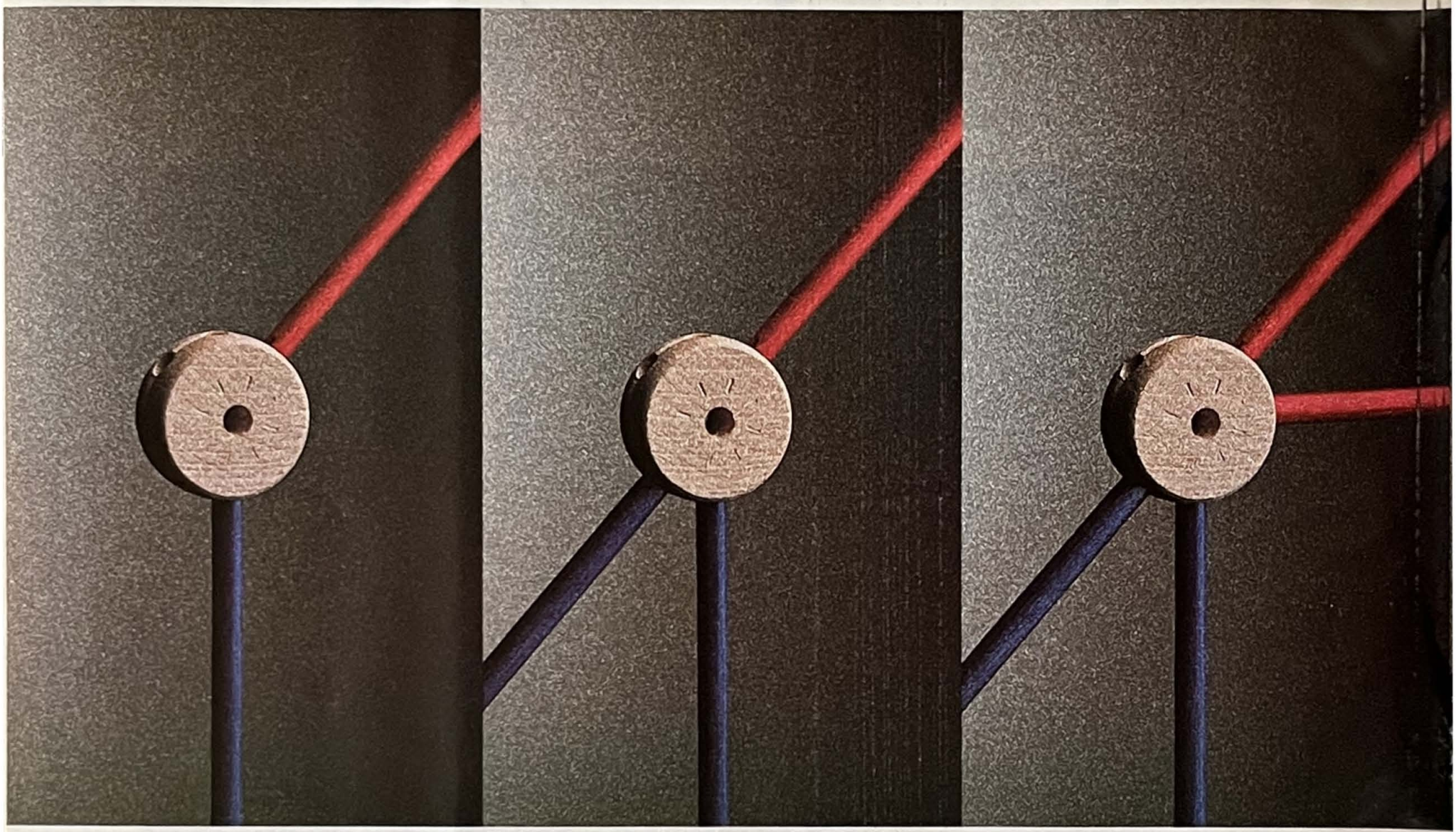

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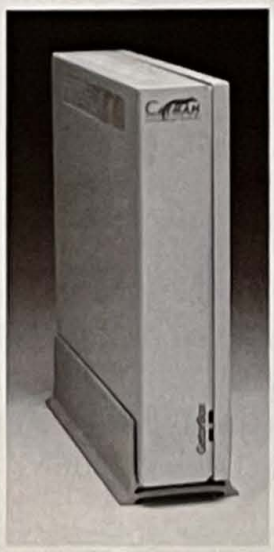

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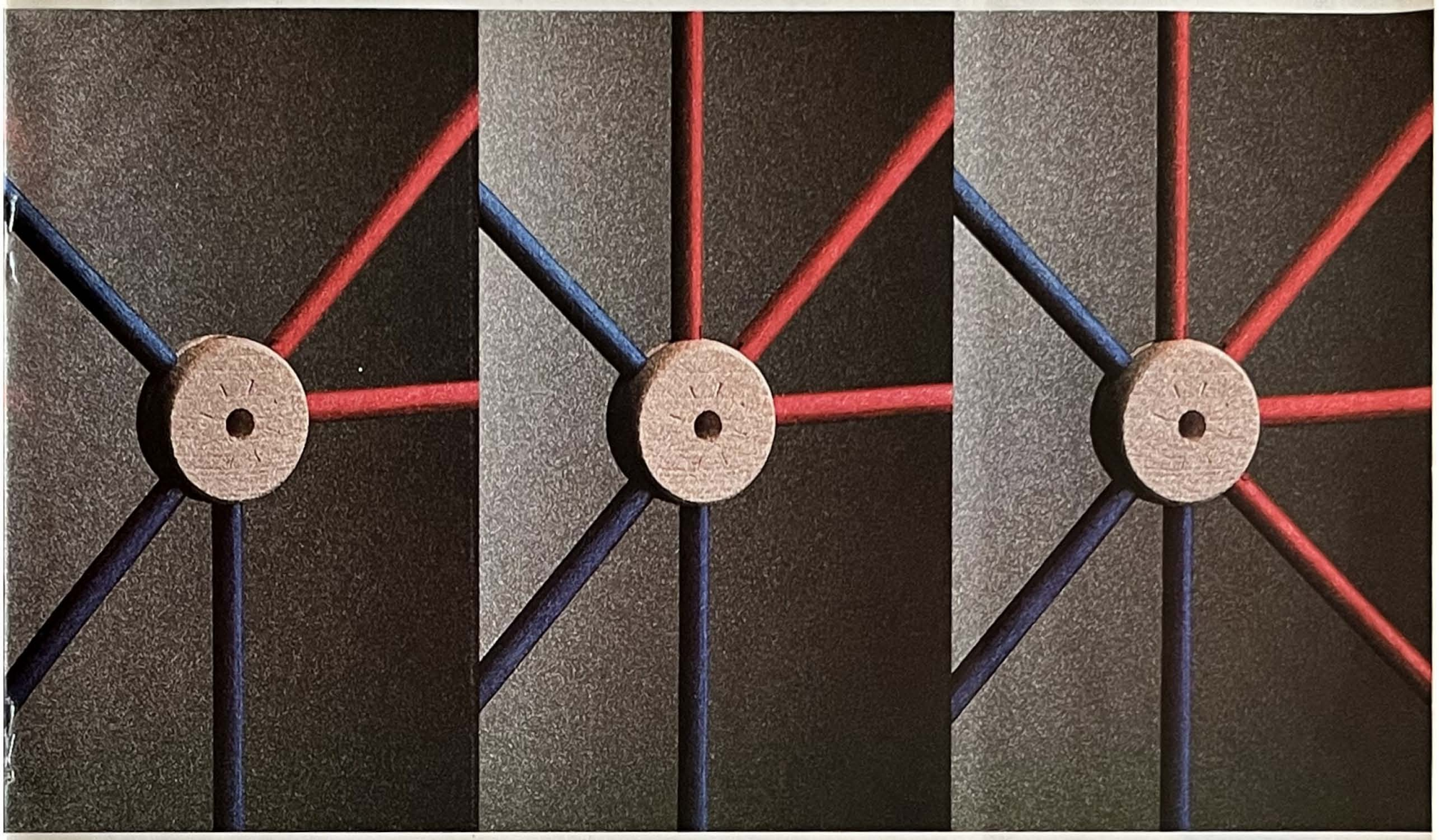

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Video data

From Page 59

information outside the normal Macintosh data-processing stream.

A faster Mac or slower data?

Speeding up the Mac is conceptually the simplest way to cope with video data, but it may be the least practical. Most models of the Macintosh would have to run from 10 to 50 times faster than their current speed to handle digitized full-motion video.

Specialized coprocessors, supplementary buses and dedicated connections to storage would be necessary to handle full-speed video data on the Mac. In effect, the Mac would be the front end for a completely different, faster video machine.

According to many developers, including what Apple has revealed about its own work in progress in this area, slowing the data rate of the video information is a better approach.

When using special hardware to compress the digitized video signal, it seems practical to cut the amount of data that must be stored and transferred by at least a factor of 20.

That reduction would allow data to be pulled from a fast hard disk at a rate quick enough to show continuous video, while a compression factor of about 60 to 100 is needed to show video using the slower data stream from a CD-ROM. (Fast hard disks can transfer data up to 1.5 Mbytes per second; CD-ROM drives can move only about 500 Kbytes per second.)

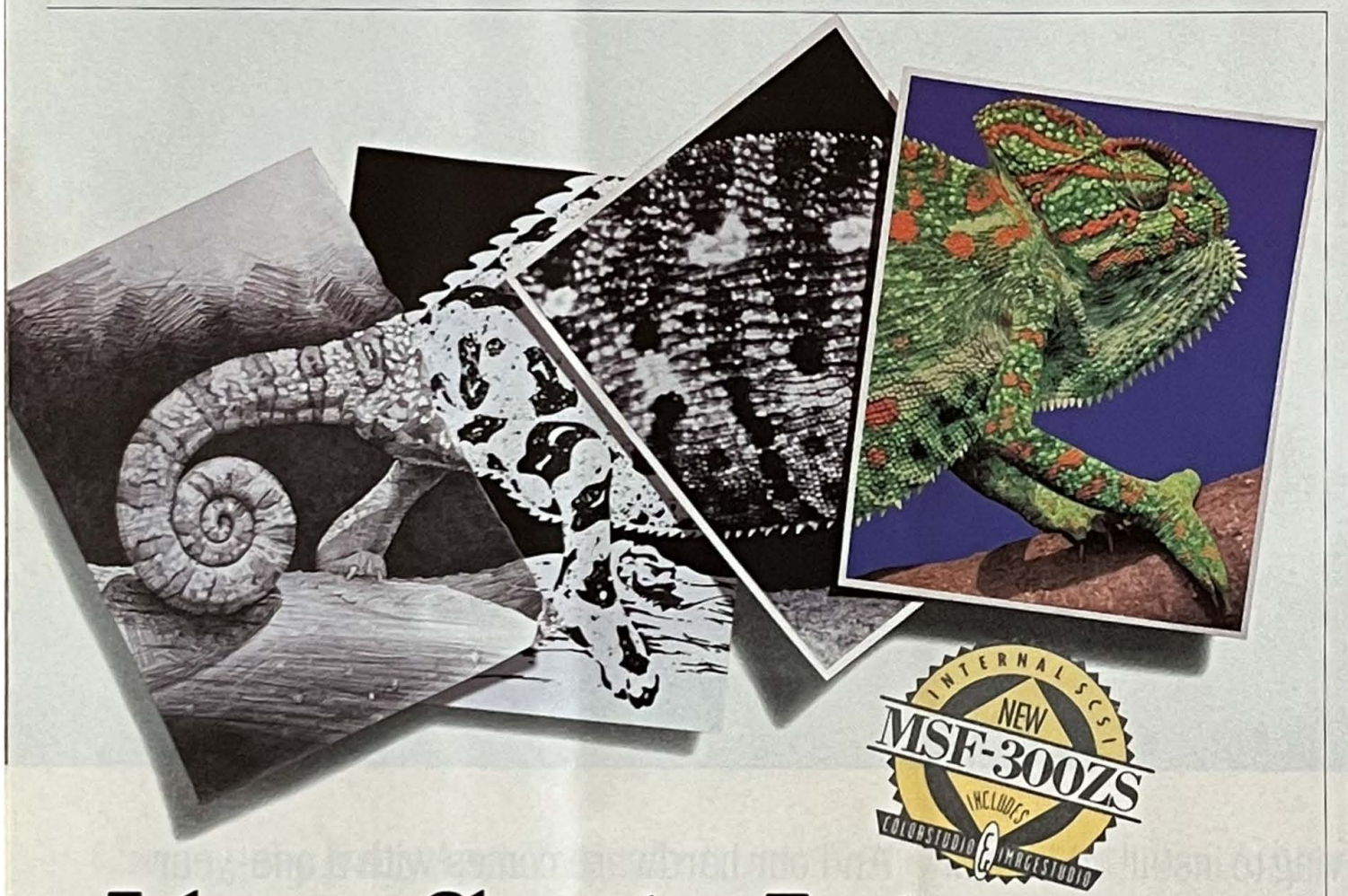
Several compression chips have been announced or demonstrated. C-Cube Microsystems Inc. of San Jose, Calif., has announced two chips to compress still images using the JPEG standard, a proposed international compression technique for still images under development at the Joint Photographic Experts Group of the International Standards Organization and the Consultative Committee International Telegraph and Telephone.

Although not designed expressly for video, the proposed JPEG standard can be used to compress moving images by considering the video signal as a series of still images. The resulting compression factor depends on several choices made by the user, but you should figure on a factor of about 20 for good quality.

The corresponding Motion Picture Experts Group is probably still a year from finalizing the video-compression standard, according to the MPEG Video Committee Chair Didier LeGall.

LeGall, who is director of research at C-Cube, said the MPEG approach will provide for interframe encoding (using the information common to successive images) as well as intraframe (within a single frame) encoding similar to that used in the JPEG approach. Therefore, MPEG should give three times the reduction of JPEG for similar image quality, or a total compression factor of about 60. The next meeting of the full MPEG committee will take place at Apple in September.

See Video data, Page 70



The original footage, which was provided by FilmBank of Burbank, Calif., was digitized to generate a 20-second sequence from which the above three consecutive frames were grabbed and converted to the PICT file format. The frames were then individually compressed at a ratio of 16-to-1 using the Adobe Photoshop plug-ins that support the CL550A JPEG processor. The original file size for each individual frame was 1.109 Mbytes. The compressed file size is 58 Kbytes. The compressed files were then decompressed and saved as PICTs.

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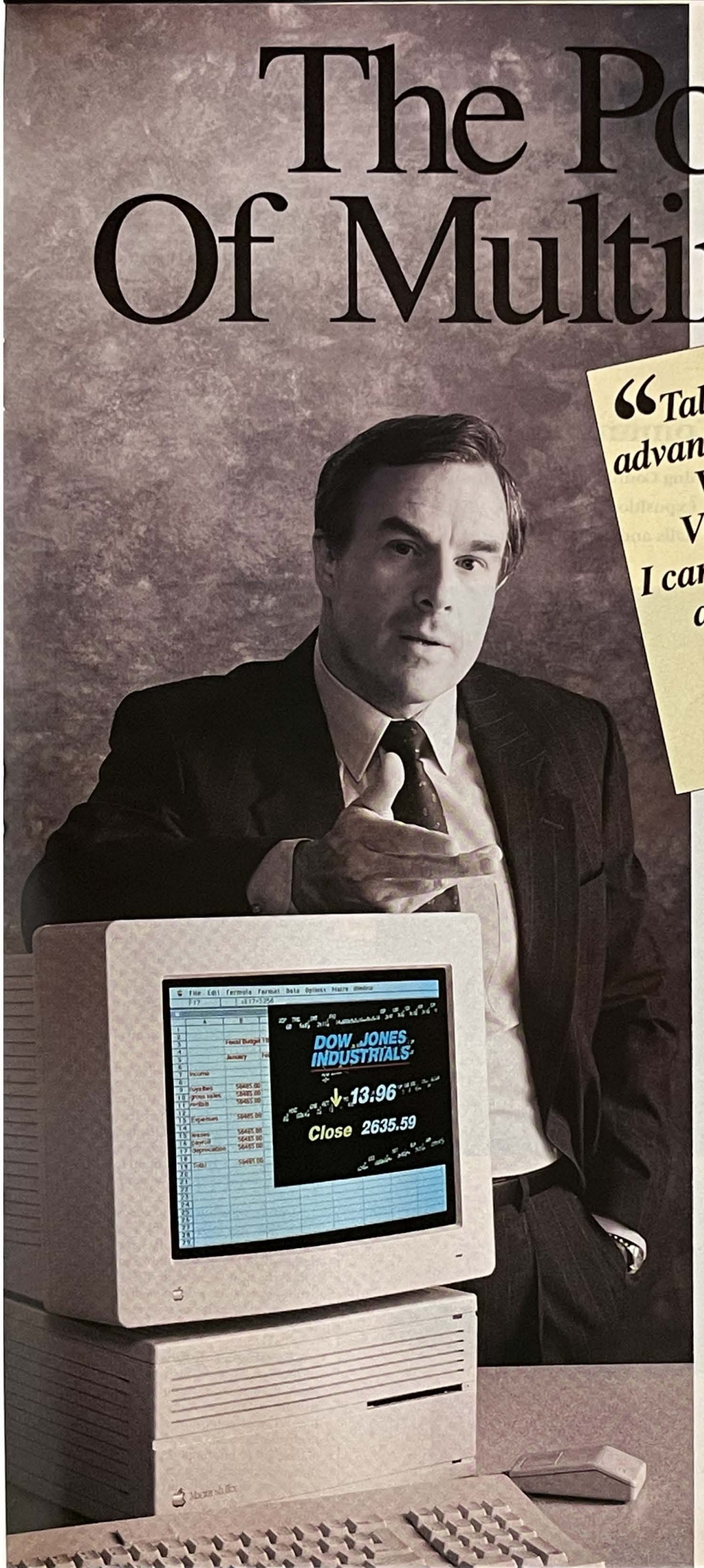

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Video input

From Page 64

Major Mac hardware manufacturers such as Radius and SuperMac Technology are working on new video products that not only stretch the capabilities but also lower the mass-market threshold for Mac video. "I'm not going to do video the hard way," said Bruce McDiffett, systems designer at San Rafael, Calif.-based Industrial Light and Magic, a division of Lucasfilm Ltd. "I'm going to wait for someone to make it easy. But life ought to be really good later this year for someone who wants to do video input."

Aapps Corp. can be reached at (408) 735-8550; Computer Friends Inc. at (503) 626-2291; Data Translation at (508) 481-3700; Digital Vision Inc. at (617) 329-5400; Mass Microsystems Inc. at (408) 522-1200 or (800) 522-7979; Orange Micro Inc. at (714) 779-2772; Radius Inc. at (408) 434-1010; RasterOps Corp. at (408) 562-4200; Truevision Inc. at (317) 841-0332; and Workstation Technologies Inc. at (714) 250-8983. □

Video data

From Page 68

Intel Corp.'s Princeton (N.J.) Operation has let slip news that a spin-off company will be applying Intel's Digital Video Interactive technology to Macintosh hardware. The DVI system is a series of chips and compression techniques. At one end, there's a single-chip system that can compress and decompress video at real-time rates. At the other end is an "asymmetrical" approach that provides much higher image quality by doing the compression using hours of processing time on a special mainframe and using the desktop only for decompression.

Although the company now maintains a "no comment" position, earlier statements from Intel officials said that a board from the start-up should appear before year-end.

In addition, Philips N.V., based in Eindhoven, Netherlands, and other companies involved in the development of the Compact Disc-Interactive standard say they are developing powerful image-compression chips. According to Philips executives, the chips may be made available for use on other platforms.

If the cost of the chips comes down far enough, notes Intel Manager of Video Processors Larry Ryan, some system designers may opt for a multiple-chip approach. With a single chip, all video functions will still have to take place on a single board to avoid overloading the main system bus. But with multiple chips, data can be compressed as it leaves each board and decompressed on receipt.

Down and out. Until compression chips become available, data rates also can be controlled by limiting color depth, by limiting the size of the image or simply by truncating some of the bits.

For example, DigiVideo from Aapps Corp. of Sunnyvale, Calif., limits the image size to about a quarter of the screen and the image rate to 20 frames per second, letting this video-capture and TV tuner board display an image on the Mac's screen even while the system continues with other tasks.

When video data rates are brought down to where the necessary bits can be shipped over the bus, they also can be stored on disk, said Steven Blank, vice president of marketing for SuperMac Technology of Sunnyvale, Calif.

For video sequences, "the key is the transfer rate," he said. Generally, the disk is reading or writing the segment along a continuous section of the track. Fast seek rates become important only when you're doing random access for editing or still presentations.

Off the bus. The last approach is to work with video information outside the Mac. In this approach, the video data is kept in analog form on external recording systems, and the Mac is used as an electronic indexing and control system.

Using current industrial or professional tape transports and recorders, tape controller systems, such as the MacVAC from Advanced Digital Imaging of Irvine, Calif., or the DQ-Animaq from Diaquest Inc. of Berkeley, Calif., allow Mac programs to locate any frame on tapes of up to six hours in length, depending on the machine and format.

Most manufacturers also added privately that they expect to see a range of 8mm-format tape transports expressly designed for computer control some time within the next year. Apple CEO John Sculley demonstrated such a drive almost a year ago, but Apple has not yet announced any plans to release it as a product.

Choosing a solution. Until the technology advances further, each of these video storage and manipulation approaches will present its own trade-offs and drawbacks. Consequently, no single method is likely to please all users. Furthermore, several have yet to be shipped. But in most cases, there are already solutions good enough to get the job done now, and even better ones are on the way. □

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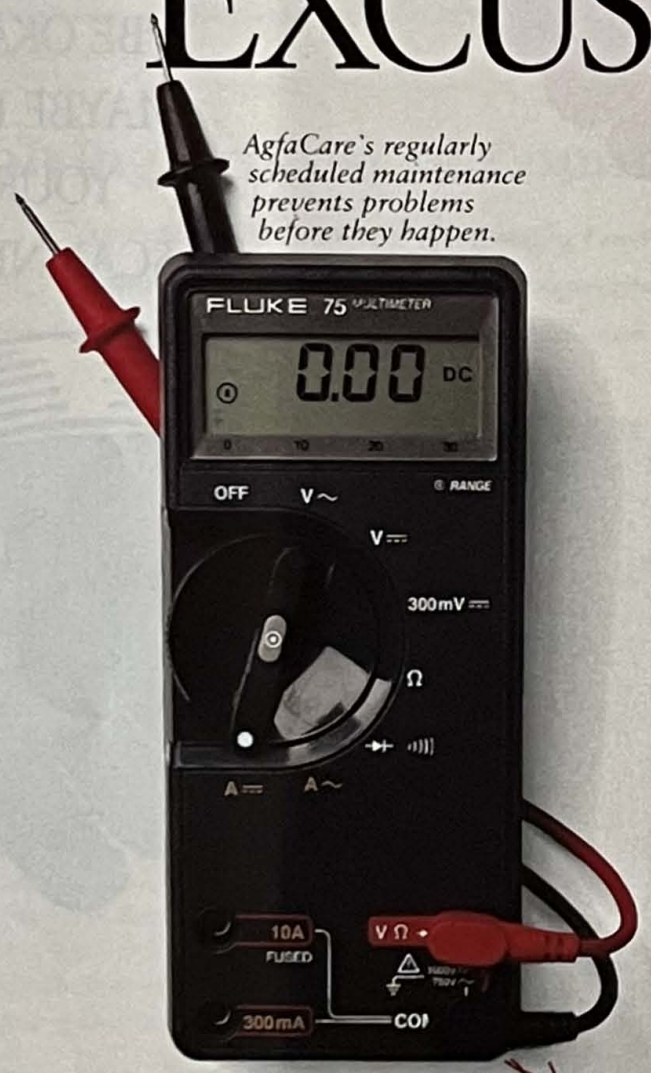

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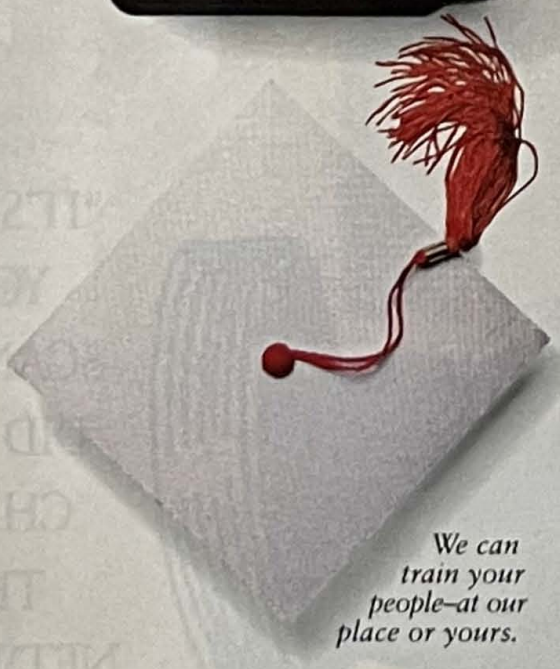

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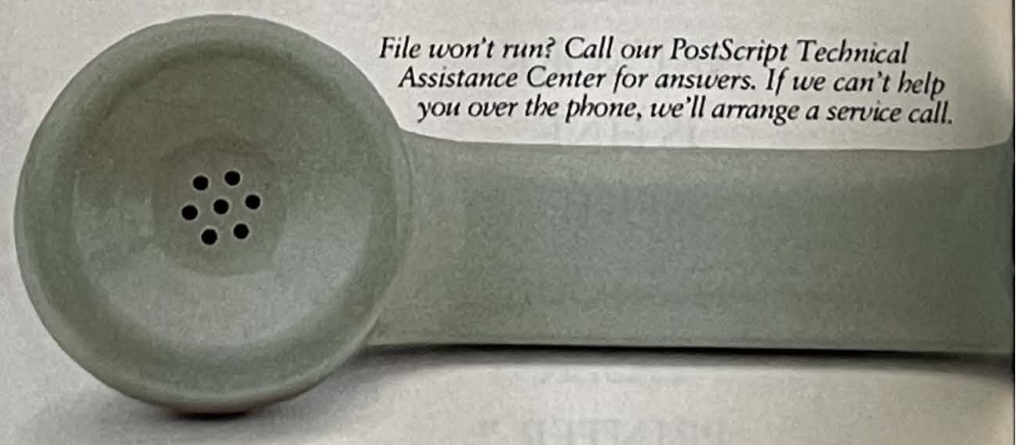

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It's getting harder to justify the price of Mac

As I was leaving my hotel in Singapore after a week at Macworld Expo Asia in June, I bumped into my friend George Mann. George is the owner of Thailand's hottest typesetting shop (which is entirely Mac-based), founder of the Bangkok Macintosh Users Group and the weekly Macintosh columnist for the Bangkok Post. In other words, he's anything but a lightweight and has more than a passing interest in the Mac. Yet, peeking out of the zipper compartment of his flight bag was the corner of a spanking-new Toshiba T1200XE.

"I'm sorry I couldn't make it to dinner last night," said George, "but I had to see if this would run what I needed." He patted the Toshiba. "The store stayed open late for me, and I made the owner load Windows 3.0, Word for Windows and PageMaker before I bought it. They're the only programs I really need for what I want to do." He sighed. "I just couldn't wait for Apple."

Meanwhile, back in the States, another good friend, a journalist and a strong advocate of the Macintosh for the past few years, has become, in his words, "a born-again DOS user." After throwing together a 386-based clone for less than $2,000 and adding a VGA card and monitor, he seems perfectly happy to have abandoned his Macintosh loyalty. As he has had extensive exposure to Macintosh software, I asked him if he was fully satisfied with the interface on his new system. "It's like moving from a BMW to a Ford Taurus," he shrugged. "It's not too bad."

I don't think these are isolated incidents. True, the Macintosh has better design, layout and painting software; better color; and a more consistent interface across applications than is available at this time in the MS-DOS world, but I'm finding it tougher and tougher to make the case for the Mac to anyone who isn't a serious graphic artist. And even I prepare a lot of copy on a Toshiba laptop; it cost me about three grand less than Apple's clunker, and I can actually use it on my lap in an airplane.

All the classic arguments about Macintosh vs. DOS learning curves, measurable throughput, the total number of software packages employed by experienced Macintosh users and so on are extremely esoteric to a buyer facing both Apple's price structure and marketing pressure from the other side. Truth may rest with the Macintosh, but current perceptions go against it. And it's certainly the perceptions that drive the market today.

So what should Apple do? Here's my 2 cents' worth, off the top of my head: Throw out most of the present product line and re-establish the bottom end as a $2,000 Macintosh IIci with 2 Mbytes of RAM, two floppy drives and a monitor; a hard disk would be extra. License the precious Mac ROM chips to an offshore manufacturer for use in 68000-based laptops priced at about $1,500 to $1,600 without hard drives. I make these suggestions knowing full well that they won't happen but in the hope of stirring some hard thinking.

Manufacturing costs have never been a significant factor in Apple's pricing, and Apple desperately needs to be seen once again as a computer company committed to bringing cutting-edge technology to the masses. So why not give the public what it wants: low-cost, high-power Macs? With such a policy, it will be a piece of cake to convince a publication or an advertising agency or an insurance company to purchase Macintoshes for secretaries and copywriters and number crunchers, as well as art directors and photo retouchers. And such a scheme would undoubtedly send sales volume up like a rocket.

What's my motivation here? Honestly, some of it is selfish; I simply have too much money and too much time invested in my Mac equipment and software. I do not want to have to junk it and move on to a new system to keep pace with the developments sure to be coming down the road in the next few years.

But further, I still believe in the promise of the Macintosh, and I would hate to see that promise stall in midflight. The Macintosh has become a philosophy and a style as much as a machine; it would be a pity to lose that as well. □

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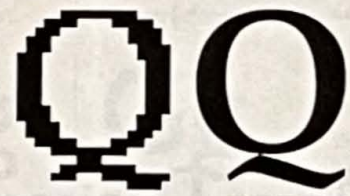

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COMPARISONS

Buying Macintosh laser fonts: Reading between the (out)lines

Proliferation of formats confusing

By Mary Jane Westland and Rick LePage

Buying and using Macintosh type used to be simple. There were bit-mapped fonts for screen display and dot-matrix printer output, and PostScript outline fonts for output to LaserWriters or Linotronics. Bit-mapped fonts were commonplace, and PostScript fonts were available from only a few vendors. Now, jargon like "Type 1," "Type 3" and "TrueType" litters that previously clean landscape, provoking fears about compatibility and confusing buyers. However, the situation is actually getting better, not worse, as new technologies solve earlier problems and the overall quality of Mac type improves.

In this review, we look at Mac fonts — where they come from, how they work and what to look for when buying them. Almost 60 vendors now produce outline fonts for the Mac. Many more produce bit-mapped fonts for dot-matrix printers. But this distinction has become blurred with the introduction of Adobe Type Manager (ATM) and the coming of Apple's TrueType. Here, we focus on high-quality outline fonts.

Where do typefaces come from? Typeface designs come from many sources. Some are new, original designs. Some are revivals of old faces that are now in the public domain. Some are derivatives or a particular designer's style of old faces. And some typefaces are licensed by vendors from other type foundries.

No copyright protection exists for typeface designs themselves; only typeface names and the computer code that generates character outlines can be protected. So to use the name "Helvetica," it must be licensed from the trademark holder (in this case, Linotype Co.). However, if a type foundry wishes to release a similar design and call it something else, it may. The many similar designs from different vendors dictate a close inspection of the quality of their renderings when choosing a font.

There are many players in the typeface game, and not all sell

See Fonts, next page

Interpretation of type design

Type foundries interpret traditional typefaces differently when they digitize them for computer use. Note the subtle differences, such as the heaviness of the Image Club Galliard and the shape of the lowercase Bitstream Gill Sans compared to Monotype Gill Sans. Image Club's Gill Sans is licensed from Monotype and therefore identical to Monotype's.

Traditional ITC Galliard	Adobe Galliard	Image Club Galliard	Bitstream Galliard
Gg	Gg	Gg	Gg
Traditional Mergenthaler Gill Sans	Monotype Gill Sans	Image Club Gill Sans	Bitstream Gill Sans
Gg	Gg	Gg	Gg

Expert collections provide characters crucial to book publishing, such as ligatures, small caps and fractions.

Adobe Garamond Titling	Adobe Garamond Alternate	Adobe Garamond Expert	Adobe Garamond Expert, small caps
W	ct	1/4	ABC

Symbol Fonts provide collections of PostScript icons and drawings in an accessible format.

PIXymbols Page Studio Graphics	Crossword Treacyfaces	Phingern Ingrimayne	Borders Altsys
Roll ↑	Ą Ć Ď / Ę / Ł Ő		

Putting the best face on type shopping

FontShop | Type Sampler | Image Club

In choosing a typeface, you must be able to examine printed samples, preferably ones that include at least a full uppercase and lowercase alphabet for each font. A complete specimen book also includes ragged-right rather than justified settings of text type at several different sizes that show the type's color (the shade of gray that a block of copy will assume on the page), and alphabets at several text and display sizes. An indication of the face's set width is helpful for identifying which fonts will set wider or narrower than others.

Beyond the usual free marketing literature, several font manufacturers publish catalogs that present more-complete information. The Adobe Type Guide ($20) shows a complete character set as well as a 10-point text sample for an indication of type color. The catalog covers the entire Adobe type library through package 123 (Tekton). Adobe's Font & Function, a free quarterly catalog, is unique in that it also shows some of Adobe's typefaces in use, offering useful design ideas and showing fonts in a more attractive light than straight alphabet listings do.

The Font Company's catalog is $9.95, which is credited to your first font order. Unfortunately, the listings are one-liners that don't include a whole alphabet, so typeface identification must be done with the help of someone else's specimen book.

Image Club Graphics Inc.'s Typeface Catalog is $5, or free with a font purchase. It shows complete uppercase and lowercase alphabets, numerals and special characters for each font. There's also a short text setting for an indication of type color.

The MacTography Type Sampler is a catalog of nearly 3,500 typefaces from 32 companies, all for sale through MacTography. The book is $75, plus $80 for one year of updates. Listings for each font include a complete character set and a text setting. We wish the book was in a smaller format, but we appreciate the easy-to-update loose-leaf binder. MacTography is an invaluable cross-reference and buyer's guide.

The Communications Company Inc. publishes The WYG (What You Get) Guide ($14.95), the first in its series of PostScript typeface specimen books. Type samples are of Adobe fonts through package 16 (Melior).

Each font's listing is composed of complete uppercase and lowercase alphabets, numerals, and some punctuation and special symbols. Both settings include a swatch of reversed type. This is hardly an exhaustive guide to Macintosh PostScript typefaces, but it includes examples of 300-dpi vs. 2,540-dpi gray-tint screens with reversed and surprinted rules and type, and complete character sets and keystrokes for Adobe's pi fonts.

FontShop USA Inc. publishes its type offerings of more than 1,300 fonts in a beautifully designed catalog for $24.95 (free with a font purchase of $149), including updates for one year. FontShop sells fonts from companies such as Adobe, Agfa Compugraphic, Letraset and Monotype, as well as those from smaller, harder-to-find companies such as EmDash, Emigre Graphics, The Font Bureau Inc. and NeoScribe. The catalog doesn't show a complete character set for each font but includes a text setting to show color and the typeface design. The book is small and loose-leaf-bound, so it is easy to use and update.

The Communications Company Inc. is located at 6401 Pontiac Drive, Indian Head Park, LaGrange, Ill. 60525; (708) 246-8620. For information about other companies mentioned, see Page 80.
— By Mary Jane Westland

Effects of hinting

The juke box music puzzled a gentle visitor.

Bitstream Galliard 10 pt. Roman output at 300 dpi, without hinting, enlarged 200%

The juke box music puzzled a gentle visitor.

Adobe Galliard 10 pt. Roman output at 300 dpi, with hinting, enlarged 200%

Fonts

From previous page

directly to end users. Vendors also license technology and typeface names and designs to each other, making things doubly confusing.

One often-mentioned player in the type-licensing game is International Typeface Corp. Its library includes original faces, revivals of older faces and typeface designs licensed from other type foundries. ITC was set up as a typeface clearinghouse and does not do in-house type design, but commissions and licenses work from outside designers, develops weights and extended character sets, then licenses these typeface designs and names to typesetting equipment manufacturers, such as Agfa Compugraphic (a division of Agfa Corp.) and Linotype, and to type foundries, such as Adobe Systems Inc. and Bitstream Inc. ITC does not sell to end users.

URW, another large type foundry, also does not sell directly to end users but licenses faces to other foundries, such as The Font Company and Digital Typeface Corp. In addition to licensing its library, URW will digitize typefaces for other type foundries, using its IKARUS software.

Adobe's type library consists of typefaces that have been licensed from such foundries as Linotype, ITC and others, as well as original typeface designs. The Adobe type library is also licensed to other companies such as Agfa, Linotype and Monotype Typography Inc. In this arrangement, the reseller does not modify Adobe's faces, although they may be repackaged. Most of these companies also market typefaces from their own libraries, which do not duplicate those in the Adobe library, giving the manufacturer's customers a single source for typefaces.

How type works on the Mac. PostScript fonts come with two kinds of files. A bit-mapped font is used for screen display or dot-matrix printing, and an outline font is used for printing to a PostScript device.

Apple's original scheme for identifying which font the user specified required a unique ID number for each typeface. Unfortunately, Apple's method only allowed for 255 ID numbers. As typefaces proliferated on the Mac, font-ID conflicts became a major headache for end users and service bureaus alike (see MacInTouch, May 17). Thankfully, this problem has been alleviated for the most part by a new numbering scheme that allows for more than 32,000 ID numbers and by new rules for identifying fonts by name rather than by number. Wrong fonts still occasionally crop up as a result of naming conflicts, but it is much less of a problem with current technology.

There are two kinds of PostScript outline fonts, Type 1 and Type 3, and they have some important differences. These differences are largely invisible to the casual user. The most obvious distinction is that most Type 1 fonts will work with ATM and Type 3 fonts will not. To the expert user, however, the Type 1 format is preferable to Type 3 for several reasons:

- It results in smaller files.
- It includes mechanisms for "hinting" that optimize character shapes at low resolutions.
- It's faster.
- Its fill routines are more accurate.

Until recently, Type 1 was a proprietary Adobe format licensed to only a select group of large foundries; with the publication of the Type 1 specification, however, many vendors are releasing Type 1 versions of their fonts.

However, this does not mean that Type 3 fonts are obsolete. Type 1 cannot handle stroked or very complex characters, and it is possible for Type 3 fonts to be hinted.

Other font formats. There are other outline printer font formats besides PostScript. GCC Technologies Inc.'s PLP II, PLP IIS, WriteMove and WriteImpact printers all use a proprietary outline format. GCC's printer-driver software converts outline data into an appropriate bit map for transmission to the printer. These font outlines have been licensed from Bitstream Inc., and the format is based on Bitstream's Type F format. Bitstream Type F fonts can be run through the MacFontware Converter, available from GCC, to put them into GCC's proprietary format. A bit-mapped version of each font is still required for screen display on the Mac.

Hewlett-Packard Co.'s DeskWriter, PaintWriter, PaintJet and PaintJet XL use Agfa Compugraphic's Intellifont outline-font technology. Intellifont is built into the printer-driver software and works with the DeskWriter Series fonts from Agfa. Again, bit-mapped fonts must be installed for screen display, and the PaintJet printers also require that HP's Color PrintKit software be installed.

With the release of ATM, these GCC and HP printers and other non-PostScript printers, such as Apple's LaserWriter IISC and ImageWriters, can also use PostScript outline fonts. In addition to opening the PostScript Type 1 font market to non-PostScript printers, ATM also offers the advantage of high-quality screen rendering of fonts, a feature not available with the MacFontware and Intellifont technologies as they are implemented on these printers.

Choosing a typeface. Typefaces fall into three basic categories: text faces used for body copy; display type used for large sizes and decorative purposes; and special-purpose symbol fonts for applications such as math, music, science and mapping.

Assuming you have chosen a type family for your project — ITC Galliard, for example — how do you then choose which version to buy? Several vendors supply the face, each with slightly different features.

Important criteria in choosing a typeface and supplier are:

- Whether you must exactly match type used in an existing publication.
- Whether the type family includes all the weights and styles needed (light, regular, bold, italic and so on).
- Whether the font is in Type 1 format so that it is hinted for best-quality 300-dpi output and is compatible with ATM.
- The quality and quantity of kerning pairs.
- Whether any special symbols needed are included.

Trueness of cut (how well an implementation of a face matches an original standard) may be an important issue if you need to match typefaces that were used in the past for similar projects. Probably the most important thing to be aware of is that matching fonts from different manufacturers are not guaranteed to have the same metrics (in other words, to generate the same line endings).

A variety of type weights adds tremendously to the versatility of a type family. To add interest to a page without adding the potential visual confusion of another typeface of a different design, it's often useful to use different weights of a single typeface to distinguish functions of particular parts of the copy. Sans-serif faces such as Avant Garde,

See Fonts, Page 80

MacInTouch

RIC FORD AND RICK LEPAGE

Increasing the odds when you play System roulette

BUGS & TIPS

System software roulette. Choosing the right incremental version of the Macintosh system software is almost like a game of roulette. The Mac has grown so complex that there are thousands of variables, and Apple itself controls only a few of them. Depending on what mix of hardware and software you have, one version of the system software may crash frequently while another works fine.

Varying recommendations from different groups at Apple have contributed to the confusion. An "AppleGram" recommended using Version 6.0.4 for certain machines, although Apple is shipping 6.0.5 with all new Macs.

In the confusion of choices and information, there is one approach that can help bring order to the desktop. In the world of large computers, it is often termed "change management."

Your starting point is the new Mac at the time of purchase, with the system software included in the package. Hardware and software changes should be applied systematically to that base from the time the computer is new.

For example, if you are starting with System 6.0.2 on a Mac II and need to upgrade to 32-bit color, Apple recommends installing System 6.0.5 (see MacWEEK, April 3). First, upgrade only the system software (paying attention to the heap-size issue covered in MacWEEK, June 19) and then attack any problems that develop. Don't install a slew of Startup documents (INITs), virtual-memory software, desktop video and LaserWriter 6.0 at the same time. Instead, work component by component, leaving

GORDON STUDER

a few days to shake out problems from each change.

If your Macintosh is working OK with System 6.0.2 or higher, there is no reason to upgrade until you install hardware or software that requires a newer version. (Of course, certain bugs may necessitate upgrading to get the fix, such as the Apple File Exchange bug with dual-floppy SEs, which was fixed in System 6.0.5.)

Apple recommends that all Macs (Mac Plus and newer) use at least Version 6.0.2, since the original 6.0 release had many compatibility problems. (System 6.0.1 was never released.)

System 6.0.5 is required only for the Mac IIfx, although Apple also recommends it for use with the Portable and IIci and with 32-bit QuickDraw applications. Systems 6.0.2, 6.0.3, 6.0.4 and 6.0.5 can be used together on the same network.

Going backward in versions is generally a bad idea. No system software older than that originally shipped with the machine should ever be used. Apple also recommends against using the Installer's Remove button to attempt to return to an earlier version of the system. If you must go back to an older release because of insurmountable problems, you should restore the software from a backup. Failing that, you can delete the System files and re-install the software from scratch, using locked Apple System disks at the desired release level.

The secret of success is not to fix anything that isn't broken. That, along with systematic change management and Apple's latest system change history documents (available on AppleLink or from dealers) should help keep confusion in check until Apple develops an installer with more artificial intelligence.

More gremlin tricks. In our recent discussion of the Mac II-family serial-port "gremlin" (see MacWEEK, July 10), we missed a simple solution to the problem, according to readers who subsequently wrote in with the tip.

Jeff Lee at NASA in Wallops Island, Va., and David Ulrich of Royal Glass Corp. of Englewood, N.J., used the standard Apple ImageWriter driver to fix the problem when it occurred. Selecting the ImageWriter in the Chooser and switching back and forth between the printer port and modem port apparently resets the critical area of parameter RAM, zapping the gremlin.

We welcome comments at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600; (617) 497-2646 (fax). Electronic mail: CompuServe: (Ric Ford) 72511,44; (Rick LePage) 76117,1765; GEnie, America Online, Delphi, MCI Mail, PAN: MACWEEKBOS; Connect: RICFORD, RICKLEPAGE; AppleLink: ("Attn: MacInTouch" in Subject): MACWEEK; Internet: 72511.44@COMPUSERVE.COM.

Join us in the MacWEEK Forum by typing GO ZMC:MACWEEK on CompuServe or Zmac. Shareware files are available for downloading from the Zmac Download Library (GO ZMC:DOWNLOAD).

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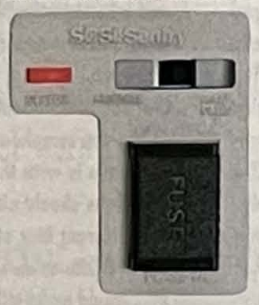
EMAC has found a way to prevent unnecessary Macintosh hard drive fatalities with SCSI Sentry,™



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The importance of kerning

Jackdaws love my big sphinx of quartz.

Kerning tables provide letter-spacing information ...

Jackdaws love my big sphin x of quartz.

... so that you don't end up with type like this.

Fonts

From Page 78

Helvetica and Univers usually are available in the widest range of weights, typically light, regular, medium and bold, but often with ultralight and ultrabold or heavy added to the ends of this range. Of the large type foundries, Bitstream generally offers the widest range of weights for a given type family.

Italics are used primarily as an auxiliary to Roman typefaces but are also useful as primary typefaces. So, purchasing a type family with an italic that's distinctively different in shape from the Roman (as opposed to simply a slanted Roman) will stretch your type dollar and look more professional. Italics come in a variety of forms, from the merely oblique, typical of sans-serif faces, to modified sloped Romans, typical of faces such as Melior and Trump Mediæval, to true cursive italics, typical of faces such as Galliard.

Hinting gives the printer extra information about the shape of each character to help it make intelligent decisions about which printer dots to turn on for the best possible rendering of that character. Hinting is particularly important at small text sizes on low-resolution (300-dpi)

See Fonts, Page 82

Macintosh PostScript font vendors

Vendor	Phone	No. of fonts	Origin[1]	Format[2]	Category[3]	Price
18+ Fonts	(708) 980-0887	5	O	3	D	$65
Adobe Systems Inc.	(415) 961-4400	125+ pkgs.	O, L	1	T, D, S	$95-$370/pkg.; Font Folio, $14,200
AGFA Compugraphic Corp.	(800) 424-8973	1,000+	O, L*	1, 3	T, D	Average $169/pkg.; average $185 for Adobe
Allotype Typographics	(313) 663-1989	11	O	3	E, S (chemistry)	$40-$160, most $85 range
Alphabets Inc.	(800) 326-4083	2 pkgs.	O	1, EPS outline	T, D	$59.95-$74.95
Altsys Corp.	(214) 424-4888	21 pkgs.	O	3, Fontographer	T, D	$59.95-$99.95
Autologic	(805) 498-9611	1,500	O, L*	1	T, D, E, S	Adobe, discounted 25%; Autologic, $135-$360
Bear Rock Technologies Corp.	(916) 622-4640	5 pkgs.	O	3	S (bar codes)	$225/pkg.
Bigelow & Holmes	(415) 326-8973	20	O, L	3	C	Custom pricing
Bitstream Inc.	(617) 497-6222	1000+	O, L	1 (unhinted), 3	T, D	$45, min. 4 faces/order, volume pricing
Cassady & Greene Inc.	(800) 359-4920	38 pkgs.	O	1, 3	T, D, E, S	$89.95/pkg. most with 4 faces
Caseys' Page Mill	(303) 220-1463	1	O	3	S (bullets, boxes)	$89
Castcraft Software Inc.	(800) 345-2657	15,000+	O	1, 3	T, D, C	$95
Computer Emporium/Resolve	(914) 562-3131	1 pkg.	O	3	S (borders, frames)	$79.95
Davka Corp.	(800) 621-8227	25	O	3	F	$50
Devonian International Software	(714) 621-0973	7 pkgs.	O	1, 3, SmoothFont	T, D, E, S (fractions)	$39.50/pkg.
Digital Typeface Corp.	(612) 944-9264	100	L	1	T, D	$995/100-face set
Dubl-Click Software Inc.	(818) 700-9525	9 pkgs.	O	1, 3	D, S	$79.95/pkg.
Ecological Linguistics	(202) 546-5862	100+	O, L	1, 3	E, S (chess, sign language)	$90-$500/pkg.
EDUCORP	(800) 843-9497	6 pkgs.	O	3	T, D	$39.95-$69
Electra Products Inc.	(617) 890-1288	1,400+	L	1, 3	T, D	Pricing not set, ships Sept.
The Electric Typographer	(805) 966-7563	12	O	1, 3	T, D, C	$45-$89.95/pkg.
EmDash	(708) 441-6699	2 pkgs.	O	1, 3	T, D, S (arrows, bullets, fractions)	$65/pkg.
Emigre Graphics	(415) 845-9021	14 pkgs.	O	1, 3	T, D	$65-$125/pkg.
The Font Company	(800) 442-3668	1,400+	L	1 (unhinted)	T, D	$89.95-$169.95
Font World	(716) 235-6861	250+	O	1	T, E, C	$129-$299/pkg.; hard drive available
FontBank Inc.	(708) 328-7370	300+	O	1, 3, EPS outline, SmoothFont	D	$295/250-font set
FontShop USA Inc.	(203) 846-3087	300+	O, reseller	1, 3, LetraFont	T, D, E, S, C	$55-$309
George Manogle/Graphic Partners	(315) 426-0513	1	O	3	S (credit cards), C	$29.95
Giampa Textware Corp.	(800) 663-8760	20+	O	1, 3	T, D, S, C	$65-$450/pkg.
Image Club Graphics Inc.	(800) 661-9410	613	O, L	1, 3, EPS outline	T, D, S	$25; CD-ROM, $4,999; Art&Type Vendor, $199 + $25/font; $299/FontPak with 20-26 faces
Ingrimayne Software	(219) 866-6241	75+	O	1, 3	D	$5/face; also priced by family
International Digital Fonts	(800) 661-4747	53	L	3	T, D	$39.95; volume discounts; $829/full set
Kingsley/ATF Type Corp.	(800) 289-8973	4	O	1, 3	D, S (borders)	$165/pkg.
Letraset	(800) 343-8973	180+	O, L	LetraFont	D	$75
LetterPerfect	(206) 851-5158	6	O	1, 3	D, C	$45-$195/pkg.
Linguist's Software Inc.	(206) 775-1130	200+ pkgs.	O, L*	1, 3	E, S (mathematics)	$49.95-$149.95/pkg.
Linotype Co.	(800) 633-1900	650	O, L*	1	T, D, S, C	$95-$370
MacTography	(301) 424-3942	17 pkgs.	O, L	1, 3	T, D, S (fractions), C	$79-$129/pkg.
Monotype Typography Inc.	(800) 666-6897	400+	O, L*	1	T, D	$90-$325/pkg.
NEC Technologies Inc.	(800) 826-2255	520	L*	1	T, D, S	CD-ROM $399 including 3 families; $10,999/set including CD-ROM reader
NeoScribe International	(315) 853-4427	26 pkgs.	O	1, 3	T, D, F, S (bar codes), C	$59.95-$149.95
Page Studio Graphics	(602) 839-2763	65+	O	1, 3	S (pictorial)	$50-$145/pkg.
Paperback Software International	(415) 644-2116	1 pkg.	O	3	S (PC symbols)	$149.95
Richard Beatty Designs	(914) 565-3711	40 families	O	1, 3	T, D, S (borders)	$125 average/family
Scholars Press	(404) 636-4757	3	O	3	F	$50/printer; site license available up to $250
Softdisk Publishing	(800) 831-2694	3 pkgs.	O	3	T, D	$29.95/pkg.
Spinnaker Software Inc.	(617) 494-1200	12	O	3	D	$99.95/12-face set
Studio231	(516) 785-4422	21 pkgs.	O, L	3	T, D, S	$99/pkg.
T/Maker Co.	(415) 962-0195	3	O	3	D	$79.95
Tactic Software Corp.	(800) 344-4818	21	O	1, 3	D	$99/21-face set
TPS Electronics	(800) 526-5920	1	O	3	S (bar codes)	$219
Treacyfaces Inc.	(215) 896-0860	24	O	1, EPS outline	T, D, S (crossword)	$90-$170/pkg.
U-Design Type Foundry	(203) 278-3648	8 pkgs.	O	1	S	$49.95-$79.95
Underground Typographer	(609) 589-6477	1	O	1, EPS outline	T, D, S (borders, ornaments)	$25
UKW	(603) 882-7445	1,250+	O, L	3	C	Custom pricing
Varityper, div. of Tegra Inc.	(800) 526-0767	300+	O, L*	1,1 (encrypted)	T, D, S	$185/installation; $395/five installations
Zipatone Inc.	(800) 323-0242	1,500+	O, L	1, 3, EPS outline	T, D	ZipFonts, $29.95; TypeXpress, $249.95/100-face set

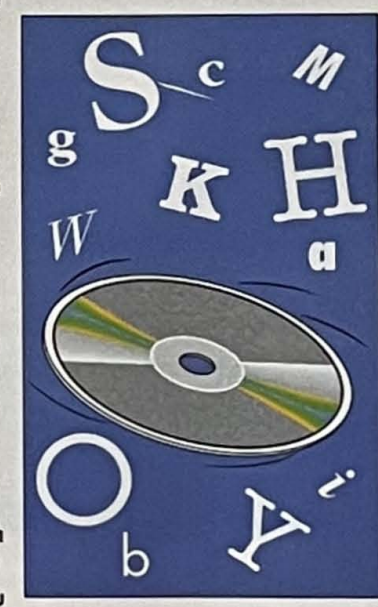
1: O=original design; L=designs licensed from another vendor. 2: 1=Type 1 format; 3=Type 3 format. 3: T=text fonts; D=display fonts; F=foreign-language fonts; S=symbol font; C=custom fonts. * Some fonts OEMed from Adobe.

Font storage devices: Options expand

While Mac type is still usually sold via floppy disk, a number of font vendors are experimenting with higher-capacity media, such as CD-ROMs and hard disks, for distribution purposes.

Most of the distribution options are targeted at service bureaus and other organizations that are interested in purchasing a vendor's entire font library. For example, you can purchase the Bitstream Typeface Library on hard disk for $19,995, and many other vendors will sell their libraries in that format.

The distribution scheme that makes the most sense right now is CD-ROM, and three manufacturers — Agfa Compugraphic, Image Club Graphics Inc. and NEC Technologies Inc. — have released type libraries in this format. Image Club sells its own library, Agfa offers both its own typefaces and the Adobe library, and NEC OEMs the Adobe library.



You can purchase each vendor's whole library or, through a special decrypting procedure, purchase only those typefaces that you need. This method makes it easy to create a type collection at your own pace with a maximum of convenience. When you wish to buy a font, you call the company with a list of typefaces to purchase and are given an electronic "key" that makes those fonts visible on the disc.

All three companies use the same application to unlock typefaces: a simple Control Panel device (cdev) developed by the AND Group of Calgary, Alberta. We used this program with NEC's Type Gallery CD-ROM and found it simple to use. Once the keys have been entered, the fonts will be unlocked on the CD as long as the cdev is present. The only concern is ensuring that you have a backup of the cdev (which saves the keys you have entered) in the event your hard drive crashes.

Pricing for the initial purchase of the different CD-ROMs is varied. The NEC CD sells for $399 and includes purchase of three typeface families; the unlocked disc with the entire library and a CD-ROM drive is $10,999. Agfa's CD-ROM is priced at $169 with one typeface family included; $975 for the disc, 20 font families and a CD-ROM drive; and $16,995 for a package that includes a drive and the entire Adobe and Agfa libraries. Image Club's CD-ROM is priced at $199 and includes 20 typefaces (10 of which are prechosen by the company) and one volume of clip art; the unlocked disc is available for $5,399 with a CD-ROM drive.

If you are looking to acquire an entire type library and gain increased printing performance, Adobe's Font Folio is a good option. Font Folio is an 80-Mbyte hard drive that connects to the SCSI port of a PostScript peripheral and comes in two versions. Font Folio 1 contains Adobe typeface packages 1 to 69 and sells for $9,600. Font Folio 2 contains packages 1 through 105 and is priced at $14,200.

For backup purposes, as well as for use with Adobe Type Manager (ATM), Adobe includes floppy disk versions of the library as well. If you wish to keep current with the Adobe Type Library after purchasing Font Folio, Adobe offers a subscription service that will automatically send you the company's typefaces as they are released. Font Folio also includes Fifth Generation Systems Inc.'s Suitcase II utility.

Currently, there are only a few printers that support the Font Folio, such as Apple's LaserWriter IINTX, GCC Technologies' Business LaserPrinter and QMS Inc.'s PS-820 Turbo, but users of those machines will be able to detect a speed improvement of 15 percent to 20 percent when printing. This speed improvement becomes especially pronounced when printing long, complex documents that use downloadable fonts.

The one complaint we have about Font Folio is with the floppy disk backup. Adobe should either offer the library in a different Mac storage medium, such as CD-ROM, or on another hard disk. This would make using the Font Folio much more convenient, especially with utilities such as ATM.

If you have a printer that can accept a SCSI drive but do not want to invest in an entire library, most SCSI hard drives sold today will work properly. (Many early SCSI drives will not work, mainly because of the way that the SCSI standard was implemented.) Even a 20-Mbyte disk will give you enough room for a wide number of typefaces and speed improvements.

— By Rick LePage

Your Ethernet Just Ran Into A Major Obstacle.

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Fonts

From Page 80

devices. Without hinting, small type will tend to have an uneven appearance; some of the strokes may be wider than others when they should all be the same width. Hinting is not necessary at large sizes (more than 24 points) or on high-resolution devices for any type size.

Fonts from Adobe, Monotype and Treacyfaces Inc., among others, are hinted and in Type 1 format for use with ATM. Bitstream and The Font Company also ship Type 1-format fonts but without hinting; these fonts are intended for use on high-resolution devices at 1,000 dpi or greater, but 300-dpi output is suitable for proofreading.

Kerning is the adjustment of space between pairs of letters such as "To" and "WA." Typically, kerning tightens the spacing between such pairs so they don't look like they're floating apart, but there are also character pairs that need to be loosened. Some typeface designs require more kerning than others for an even appearance that enhances readability. Kerning is also more important at larger type sizes.

But the critical point about kerning-pair information built into a font isn't how many kerning pairs there are; it's how well they've been designed. Several applications are available that allow you to adjust the kerning-pair data in your fonts or use predefined kerning-pair tables (see MacWEEK comparison, Dec. 12, 1989), and page-layout packages often let you adjust kerning pairs on the fly. Bitstream, The Font Company and Treacyfaces are known for the quality and quantity of kerning pair data included in their fonts.

Special characters, such as fractions, old-style and proportionally spaced figures, and designed small caps, are most important in book typesetting, and are included in expert collections from Adobe and Monotype. Swashes and decorations are also available in alternate character sets. EmDash, NeoScribe International and Page Studio Graphics sell fraction fonts matching some of the built-in PostScript fonts.

Conclusions. In choosing Mac type, look carefully at both the rendering of the face and the manufacturer's reputation. Also consider whether the special features available in the family meet your project's needs. Type 1 fonts are usually preferable to Type 3.

An excellent resource in the quest for the right font is your local service bureau. Typesetting service bureaus tend to have a broad range of experience with typefaces from many manufacturers and can warn you of problems they've experienced in working with them. Your service bureau also may be able to refer you to expert advice on design and choosing typefaces. And when it's time to make that critical decision, consider running test prints there to anticipate problems before it's too late to solve them. □

Matthew Carter, Lowell Halvorson, Lance Hidy, Mike Parker, Louis Rosenblum, Kathleen Hinkle and Joe Treacy provided background material for this article.

True italic or oblique?

This is Bitstream Galliard italic

A true italic screen font (above) is clearly superior ...

This is a slanted Galliard Roman

... to a mathematically slanted Roman (below).

Looking your best at low printer resolutions

Digital type is considered to be typeset quality at 1,200-dpi printer resolution. At this resolution, printer dots are small enough and there are enough of them that characters can be well-rendered by translating outlines directly into dot patterns, without using hinting. On low-resolution devices, it's another story entirely; printer dots are relatively large, and there are fewer available to render characters. This makes the choice of which dots to turn on critical to the legibility of a character. Type 1 PostScript fonts are hinted to improve their rendering on low-resolution output devices.

Macintosh screen or bit-mapped fonts are designed for 72-dpi resolution. For applications that are accomplished entirely on-screen, such as forms completion, the most-legible fonts will be simple in design, reasonably large in size (10 points minimum), and have complete bit maps for bold and italic styles.

We've found that fonts designed for dot-matrix printing, such as Geneva and New York from Apple and Boston II (shareware), are easier to read on the screen than PostScript font bit maps.

These hand-tuned bit maps produce the best possible rendering of a font at a given size and resolution. It's much easier for the human eye to make the subjective judgments necessary when creating a bit map, particularly at small sizes, than it is to build that kind of intelligence into a computer program such as Adobe Type Manager (ATM).

The major disadvantage of depending entirely upon hand-tuned bit maps for fonts is that a separate bit map is required for each size and style of the typeface, at the expense of a lot of hard disk space. However, ATM provides a full range of screen font sizes for Type 1 PostScript fonts, while dot-matrix fonts typically are supplied in only six or seven point sizes. ATM works best at 14 points and larger, so hand-tuned bit maps are still needed for small sizes.

Some typefaces will never render well at low resolution, specifically faces with subtle design characteristics and shallow curves. Simpler designs with straight serifs or lacking serifs are better-suited for this environment.

Non-PostScript printers that require a bit-mapped font for printing need double-, triple- or quadruple-size fonts to print properly; the size is dependent on printer resolution. These bit maps can be generated on the fly by ATM. (Note that not every Type 1 font is ATM-compatible; ask the manufacturer.)

Fax machines require triple-size bit maps for the best-quality digital transmission. The fax environment is a particularly hostile one, so the issue of typeface design is even more critical than it is with other low-resolution devices. Digitally transmitted faxes contain the cleanest images because they come directly from the Mac. Scanned faxes tend to lose fine details in type, such as very thin strokes and serifs. Retransmitted faxes are even further degraded.

In general, stick with faces that are highly legible, have open counters (spaces inside letters), and don't have a great deal of contrast between thick and thin strokes. ITC Lucida and Stone Sans from Adobe, and Bitstream Charter hold up well in this environment. — By Mary Jane Westland

"A.M.E. sets New Security Standard"
MacWEEK 1/16/90

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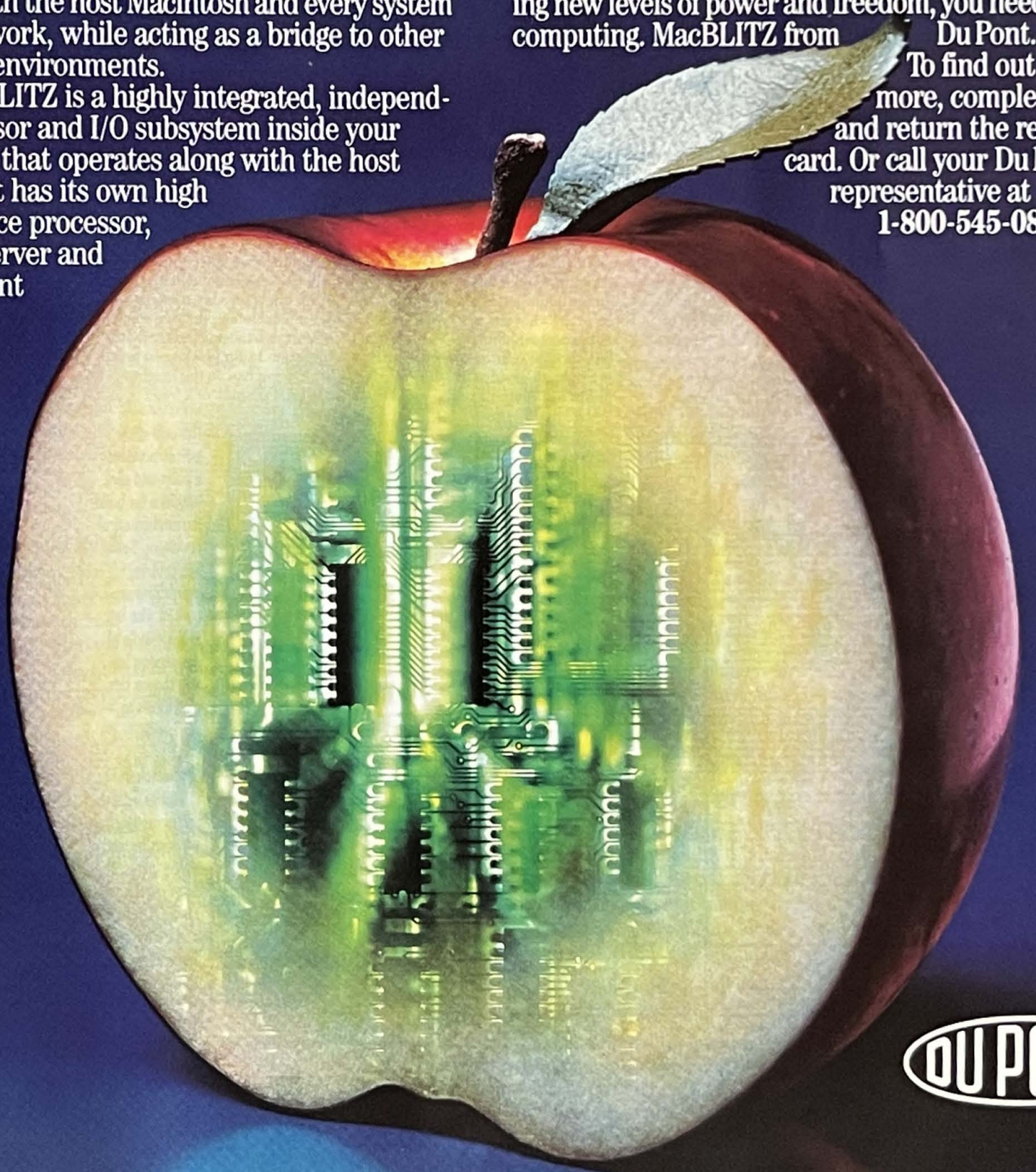


DU PONT

REVIEWS

Heavy-duty FrameMaker: Muscle for big DTP jobs

Excels at text and document linking

FrameMaker 2.1

Frame Technology Corp.
List price: $995

+ Powerful document-processing program for technical and book-length publishing; relatively easy to use; excellent indexing and cross-referencing; includes equation editor.

− Relatively poor color support; demands powerful Macintosh; doesn't import many text formats.

By Bruce Fraser

Already a best seller in the Unix world, FrameMaker 2.1 from Frame Technology Corp. brings to the Macintosh a much-needed level of functionality for the production of long documents. In doing so, it provides the first serious challenge to the hegemony of the Mac publishing market's "big three": Aldus Corp., Quark Inc. and Letraset.

FrameMaker integrates word processing, drawing, page-layout and document-management tools but is less design-oriented than competing applications. It uses the familiar metaphor of placing text and graphics in frames, but it focuses on linking components within documents and linking documents together to form books.

The most comparable program available for the Mac is Interleaf Publisher from Interleaf Inc. of Cambridge, Mass. Interleaf, however, chose to keep a common user interface across all computing platforms and doesn't take advantage of the Mac interface or operating system like FrameMaker does.

Document design. FrameMaker separates the tasks of design and creation more than most page-layout applications. Its documentation and features specifically address two different groups: template users and template builders. A template, either built from scratch or modified from one of the many supplied with the program, contains complete design specifications for a document. Like other publishing programs, FrameMaker uses master pages, but you can store up to 25 of them in each template, including both tall- and wide-oriented pages. Master pages hold the page size; margin settings; basic column layout; and repeating text or graphics, such as headers and footers. You can link specific columns so that, for example, the lead story on Page 1 jumps to Column 1 on Page 3. For multicolumn layouts, you can choose between feathering (vertically justifying) adjacent columns or aligning their base lines.

To help position elements, FrameMaker offers on-screen rulers; a user-definable snap-to grid; menu commands to align and distribute objects; and a Properties command that lets you type in the height, width and position of a frame.

Reference pages hold named frames that contain frequently used graphical elements. For example, rather than redraw paragraph rules each time they occur in the document, you include a reference to the rule as part of a paragraph's format. FrameMaker allows up to 25 reference pages per template.

Templates also contain paragraph-format and character-format "catalogs," which resemble style sheets but have greater power and flexibility. Paragraph formats apply to whole paragraphs and are used for most formatting. Character formats override the paragraph formatting for selected text.

Paragraph tags. Tagged paragraphs are central to FrameMaker. Every kind of paragraph used in a FrameMaker publication should have predefined formatting specifications (tags) associated with it. By making extensive use of templates and the tags, writers can concentrate on writing, editing and cross-referencing while designers work on design. Final formatting and layout becomes largely automatic.

FrameMaker's paragraph formats contain the usual specifications, such as indents, space before and after, font, font size and leading (in 0.001-point increments), alignment, and tabs. However, FrameMaker's formats also include more-complex settings, such as starting points for paragraphs (top of column, top of page and top of left page); maximum number of orphans and widows; maximum, optimum and minimum word spacing; shortest word, prefix and suffix permissible in hyphenation; and maximum number of consecutive hyphens.

See FrameMaker, Page 86

Reviews in Brief: PLP IIS • QMS-PS 820 TURBO

GCC's PLP IIS

During the past year, we've seen a continuing emphasis on the low end of the 300-dpi printer market. Companies such as Hewlett-Packard Co., GCC Technologies Inc. and now Apple have been busy producing "personal" printers that offer high quality and reasonable performance at a low price.

Keeping the pressure on the competition, GCC recently released a more powerful version of its PLP II printer, the PLP IIS. Like the $1,399 PLP II, the PLP IIS, priced at $1,899, uses an Okidata print engine and a GCC-designed controller to provide a printer that is well-integrated into the Macintosh environment.

The chief difference between the two units is the use of a speedier and more durable print engine. The PLP II uses the Okidata OL-400 engine, which has a maximum output speed of 4 pages per minute and a rated life cycle of 180,000 pages. The PLP IIS uses the Okidata OL-800 engine, which has a life cycle of 300,000 pages and a speed of 8 ppm.

Although it uses a different print engine, the PLP IIS fits inside the same small box (about 6 inches high by 24 inches square) that houses its less-expensive sibling. The printers also share the same front LCD panel and can use the same toner cartridges and electro-photographic magazines.

In addition to the differences between engines, the PLP IIS includes 1 Mbyte of RAM on its controller and the Fonts Plus typeface package, which are add-on items with the PLP II.

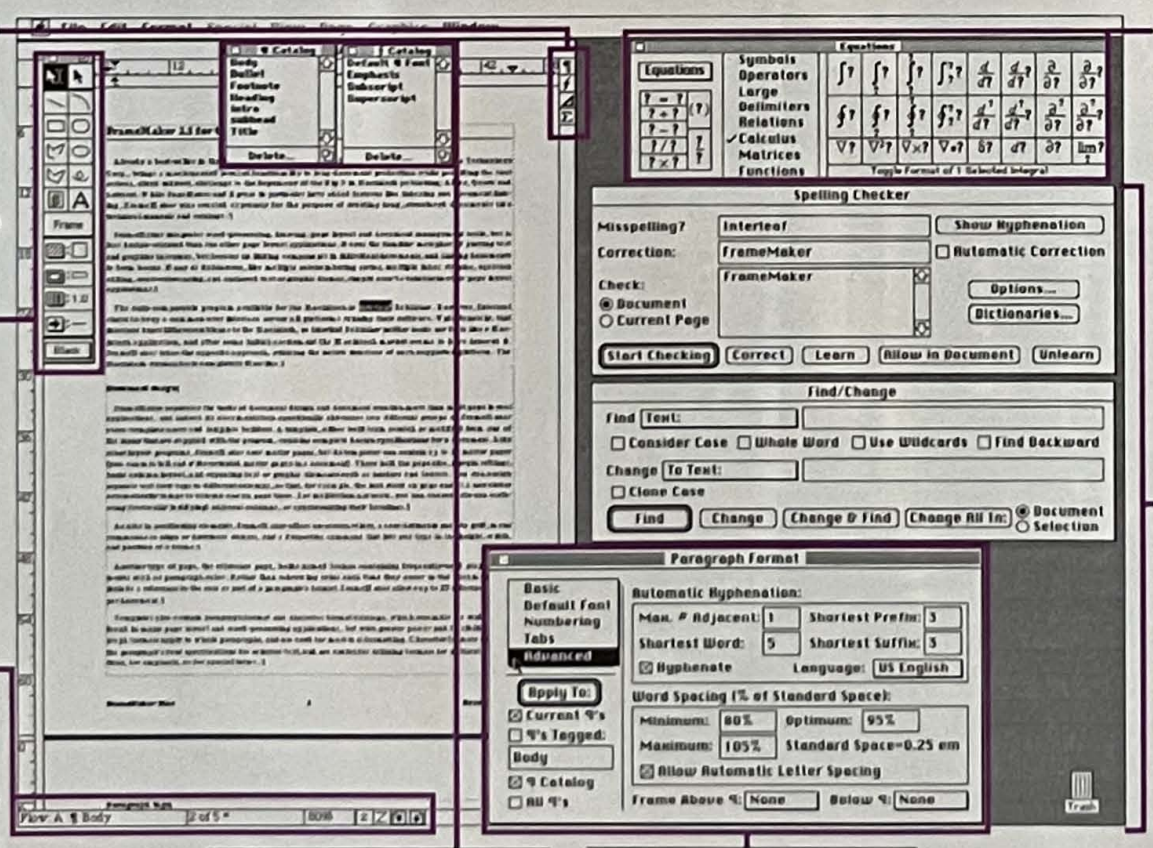
In our review of the PLP II (see MacWEEK, Feb. 20), we liked the design of the printer, and the PLP IIS has the same niceties. Features like the Sleep mode, which reduces the unit's power output when it is not being used to print pages, are especially well-thought-out and useful. Toner changing and software installation are easy and quick.

The PLP IIS has a lone SCSI port and is internally terminated, which means that it must be the last device in a SCSI chain. Users with multiple hard drives can run into termination problems, although GCC sells a dual-port SCSI adapter that can help work around problems.

The printer uses the same printing process found with all GCC printers, which is generally flawless, although users with 1 Mbyte of memory in their Macs might have to print some documents via GCC's Print Manager application.

The main benefit of the PLP IIS is in performance. While it is not twice as speedy as the PLP II, there is a marked increase in performance, especially with more-powerful Macs. With our printer benchmarks running on a 68000-based Mac, the PLP IIS printed nearly 1.25 ppm, faster than the approxi-

See Reviews in Brief, Page 88



The **icon bar** in the window frame lets you quickly call up the paragraph- and character-format catalogs, the tool palette, and equation editor.

The **tool palette** contains all of FrameMaker's drawing and layout tools; it expands to show all the commands on the Graphics menu and replaces the pen and fill pop-ups with larger palettes.

The **status line** shows the view, size, text flow, paragraph tag, page number and total page count. Simple controls let you zoom in and out and move to the next or previous page.

The **equation editor** provides a point-and-click interface for building mathematical equations. Some basic solving capabilities are built-in. The list in the middle of the window lets you choose sets of symbols to work with.

FrameMaker makes extensive use of modeless windows instead of dialog boxes. The **Spelling Checker, Find/ Change** and **Paragraph Format windows** can stay open while you work.

The **paragraph-** and **character-format catalogs** let you apply complex, pre-defined formats simply by clicking. The character formats override the surrounding paragraph settings for selected text.

In the **Paragraph Format window** you define comprehensive specifications for paragraph "tags." The pop-up menu lets you to switch between different sets of text-formatting controls.

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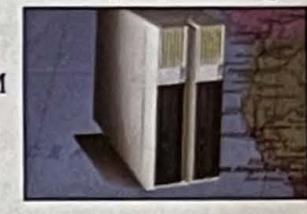

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MWK AD-32

FrameMaker

From Page 84

You can create and name multiple, auto-numbered series and use any combination of numbers, letters and Roman numerals for numbering paragraphs. FrameMaker updates the numbers when you move or delete numbered paragraphs.

Font handling. FrameMaker's method of handling fonts is unusual. Fonts are specified by family, angle, weight and variation separately. Variation comes into play with families that have condensed, extended or compressed versions, such as Helvetica or Futura. FrameMaker can simulate bold and oblique styles for fonts that lack them; it won't, however, simulate extended or condensed variations. You can choose underline, strikethrough, overline, superscript, subscript, outline and shadow styles, but you can't specify all caps or small caps.

Some users may find the program's spacing conventions idiosyncratic. In FrameMaker, leading is the amount of extra space between lines rather than the distance between base lines. To specify 11-point type on 13 points of leading, you choose an 11-point font and add 2 points of leading. You also can specify a positive or negative percentage of spread. (Zero percent is the font's default spacing value.) Spread serves for both pair kerning and tracking.

Intelligent links. Much of FrameMaker's power lies in the intelligent links it allows within and between documents. Typically, each chapter in a book is created as a separate FrameMaker document, but lists, indexes, cross-references and tables of contents can be generated for the whole book by using versatile text links called markers.

Markers are special non-printing symbols inserted into text. The program defines markers for index, subject, author and glossary lists, and it includes 15 other markers that you can adapt to your own purposes. Index entries can be as simple as a single word followed by a page number, or they can include multiple entries, multiple levels, page ranges and references to other index entries. You also can control the sorting order of indexes and set up multiple index streams by using different markers.

You mark cross-references similarly. When you insert other cross-reference markers later, they link back to the source marker. FrameMaker doesn't update cross-references until asked to do so. Simple command strings let you specify formatting for index entries or cross-references as you enter their content.

Yet another kind of marker is used to anchor frames of graphics or text. When the text to which a frame is anchored moves, the frame moves with it. Anchored frames can be positioned within a line; below the current line; or in the left, right, inside or outside margin. You can use anchored frames to hold small graphics, to keep figures with their associated text, or to hold call-outs and subheads in the margins.

In addition to markers, FrameMaker uses systemwide and user-defined variables. Systemwide variables include page number, page count, date, document creation date, modification date and file name. User-defined variables are place holders for strings of text, much like a word processor's glossary.

FrameMaker can create lists, such as tables of contents, indexes and tables of figures, by using either paragraph tags or markers, but it also can generate lists for use in document management, such as lists of imported graphics or of fonts used.

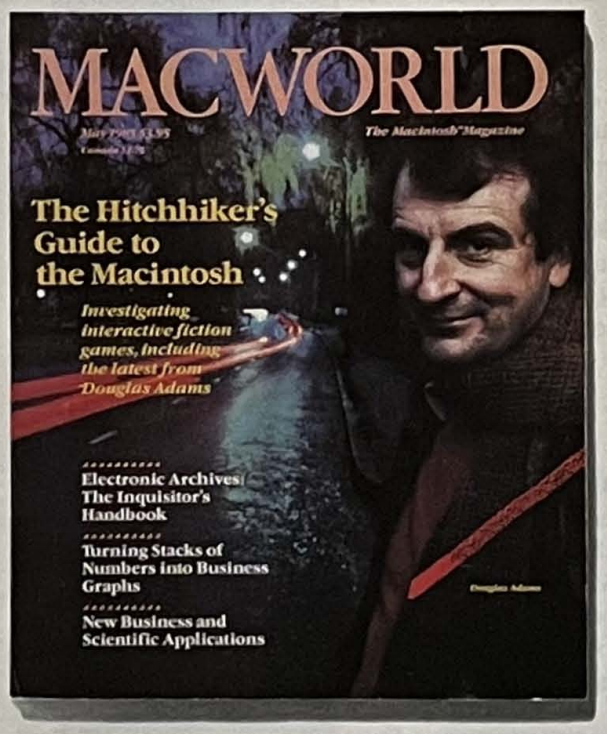
Word processing. Template users will experience FrameMaker mostly as a word processing and drawing application. As a word processor, its WYSIWYG environment is fast enough to keep up with all but the speediest typists. Formats are easily called up from the catalog windows, menu bar or keyboard. FrameMaker provides a wealth of

The FrameMaker difference

FrameMaker is a powerful, integrated package — but isn't everything these days? Here are some features that might get you to switch from your favorite layout program.

- **Cross-referencing:** FrameMaker tracks references to text or paragraphs in multiple formats across multiple documents.
- **Footnotes:** At least as powerful as any Mac word processor.
- **Indexing:** You can maintain multiple, multilevel index "threads" and specify formatting when you add entries.
- **Auto-number anything:** Choose your preferred system (alphabetic, numeric, mixed) and FrameMaker will track multiple series and update them automatically.
- **Cross-platform compatibility:** FrameMaker works on a variety of Unix workstations under Motif, X Window, NextStep, SunView, NeWS and other systems. Network licensing is especially flexible.

First then.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Electronic Archives
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New Business and Scientific Applications

keyboard shortcuts that makes even Microsoft Word look poor in comparison.

The spelling checker and the Find/Change features are particularly strong. The spelling checker not only looks for misspellings and suggests alternatives but also finds repeated words and misplaced punctuation. In addition to FrameMaker's permanent dictionary, you can create site, personal and document-specific dictionaries.

The Find/Change command can search for and replace text, paragraph or character tags, untagged character formats, Clipboard contents, markers, cross-references and anchored frames. It also allows a wide range of wild-card searches. Attention to detail shows in the Clone Case button, which ensures that a search-and-replace operation will maintain correct capitalization. Frame-Maker's "smart" quotes feature is also nice because, unlike most others, it's easily overridden when you need to type straight quotes to denote feet and inches or minutes and seconds. There's also an option to suppress double spaces as you type.

For technical publishing, FrameMaker offers point-and-click equation building and editing using a palette of symbols, operators and delimiters. It also has some basic solving capabilities built in: You can combine fractions, add or multiply expressions, and evaluate integrals and derivatives.

FrameMaker can import text-only files and files in FrameMaker's own Maker Interchange Format and Maker Markup Language format, but it won't import formatted files from word processors. It will, however, open MacWrite and Microsoft Word files directly, preserving formatting information, including style sheets. Optional filters are available for popular word processing formats on other platforms, including Document Content Architecture, RTF, WordStar and WordPerfect.

Graphics tools. FrameMaker's drawing tools, while more complete than those in most page-layout programs, are no substitute for a full-blown graphics program. The drawing palette sports the standard tools, including a Bezier curve, all with line widths from 0.015 to 360 points. Pens and fills are chosen from eight shades of gray and seven patterns. Lines can have a variety of arrowheads and butt, round or projecting caps.

FrameMaker is not particularly well-suited to short, design-intensive projects, such as newsletters and magazines. But for long, highly structured documents, it's capabilities far surpass those of other Macintosh page-layout programs.

Menu commands let you group and ungroup objects, align or distribute them, change their stacking order, scale or rotate them in 90-degree increments, and smooth and unsmooth polygons.

FrameMaker imports graphics in MacPaint, PICT, Encapsulated PostScript, TIFF and Sun Rasterfile formats. You can import a copy of the file into the document or import only a reference to the file's name and location. The latter method has two advantages: It creates a smaller FrameMaker file, and any changes made to the graphics file appear automatically in FrameMaker each time you open or print the document. Imported color bit maps will print in color on a color PostScript printer, but FrameMaker does only spot-color separations, so full-color images must be separated and stripped in manually.

Conclusions. Although FrameMaker has a rich and complex feature set, it adheres closely to the Mac user interface; for such a complex product, it's remarkably easy to use. Elements that normally would be dialog boxes, such as those for setting paragraph and character formats, are modeless windows that can be left open and on-screen while you work. However, doing so almost demands a 19-inch monitor.

FrameMaker places other demands on hardware. While basic word processing and editing can be done on a Macintosh Plus with 2 Mbytes of RAM and a hard disk, building long documents with graphics requires an SE/30 or Mac II-family machine with at least 4 Mbytes of RAM. The complete program, templates and support files occupy more than 5 Mbytes of disk space. Versions of FrameMaker run on a large number of Unix platforms, including workstations from Digital Equipment Corp., the Apollo Systems division of Hewlett-

See FrameMaker, next page

First now.

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First high-volume econo Macs still on track for October debut
Windows 3.0 casts shadow on Mac
GUI for MS-DOS could cost Apple market momentum
NEWS ANALYSIS
Apple fights back in schoolyard
Mac prices slashed to regain K-12 share
7.0 developers puzzled over missing IAC links
RadiusTV tunes into video
'Multipliers' key to support equation

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MacWEEK

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* See following page for more information.

FrameMaker

From previous page

Packard Co., NeXT Inc., Silicon Graphics Inc. and Sun Microsystems Inc., and it offers file compatibility between platforms.

FrameMaker's support of color is rudimentary. It has spot-color layers for black, white, red, green, blue, cyan, magenta and yellow, but it's not up to the color WYSIWYG standards of other Macintosh page-layout software.

FrameMaker is not particularly well-suited to short, design-intensive projects such as newsletters and magazines, so it's probably overkill for the majority of layout tasks being done today on Mac. But for long, highly structured documents, its capabilities far surpass those of other Mac programs. FrameMaker isn't for everyone, but on projects that demand the kind of power it offers, it should pay for itself quickly.

Frame Technology Corp. is located at 1010 Rincon Circle, San Jose, Calif. 95131; (408) 433-3311. □

Reviews in Brief

From Page 84

mate 1-ppm performance of the PLP II and the HP DeskWriter.

When we ran the PLP IIS on a 68020-based Mac running at 25 MHz, the throughput of the PLP IIS almost tripled, to 3.5 ppm, while the PLP II's performance doubled, to about 2 ppm. The DeskWriter had only a minimal increase, to a little more than 1 ppm.

The reason for the differences in performance are related to the fact that a printed page must be imaged on the Mac before being sent to the printer. With either the PLP II or the IIS, it is possible to increase performance by adding a faster processor and more memory to your Mac. With documents of minimal complexity, it is possible to gain even greater throughput.

Mac Plus or SE users with 1 Mbyte of memory will probably not want the power and speed of the PLP IIS, preferring instead to stick with the PLP IL Users of Mac II-class and above machines should go for the PLP IIS; the $500 price difference between the two printers is minimal when compared with the added performance that the PLP IIS offers.

GCC Technologies Inc. is located at 580 Winter St., Waltham, Mass. 02154; (617) 890-0880; (800) 422-7777. — *By Rick LePage*

QMS-PS 820 Turbo

While the spotlight might be focused on the low end of the market, there is still a need for high-speed PostScript printers. The capability to pump out documents quickly in a networked environment is crucial to many businesses, and QMS Inc. has been one company eager to fill this need.

The top of the QMS printer line is now the QMS-PS 820 Turbo. This printer, priced at $6,995, uses the Canon TX print engine, which is rated for 10,000 pages per month and has an engine life of 600,000 pages. The QMS-PS 820 Turbo has AppleTalk; Centronics parallel and RS-232 serial interfaces; and sports a SCSI port for font storage and caching, as well as two 200-sheet paper trays.

The centerpiece of the QMS-PS 820 Turbo, however, is its PostScript controller, which is based upon a 20-MHz Motorola 68020 CPU and comes with 2 Mbytes of RAM (expandable to 8 Mbytes). This supercharged controller helps boost the printer's throughput past most standard PostScript machines.

Using our standard printer benchmarks, the QMS-PS 820 Turbo was almost twice as fast as Apple's LaserWriter IINT and about 13 percent faster than a similarly equipped LaserWriter IINTX. The only printer to best the QMS-PS 820 Turbo in normal testing was the Agfa Compugraphic P3400PS, which uses a 12-ppm print engine and has a built-in hard drive (see MacWEEK, April 10).

The QMS-PS 820 Turbo is a quality printer, and QMS provides a complete package to enhance the unit's usefulness. The documentation is superb, and QMS bundles a set of utilities with the printer in formats for both the Mac and IBM PCs.

The Mac utilities include a desk accessory for setting up the paper trays. Using this DA, you can set which tray you want to print with, and you also can set the QMS-PS 820 Turbo to use the second tray automatically when the first tray runs out of paper. The only problem we had with the DA was a minor procedural issue. There is no way to use a different tray for one page and then return to the previous default, which can cause frustrations on a network if users do not remember to reopen the DA to reset the paper tray when they are finished.

This is a minor quibble. The QMS-PS 820 Turbo is an excellent printer, and its features, performance and durability make it a good choice for high-volume sites where speed is a necessity.

QMS Inc. is located at 1 Magnum Pass, Mobile, Ala. 36618; (205) 633-4300; (800) 631-2692. — *By Rick LePage*

How MacWEEK got to first place.

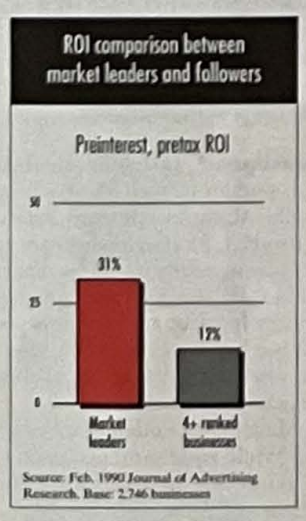
It's more important than ever that advertising provide a solid return on investment (ROI). To maximize advertising payback, remember this motto: *Aim to dominate.* Dominant brands are twice as profitable as followers. Research shows that market leaders average an ROI of 31 percent. Those with a market rank of four or more deliver an ROI of only 12 percent (chart one).

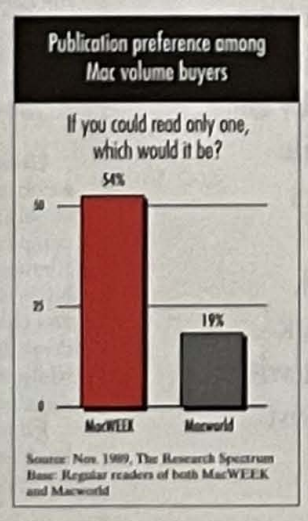
A 4+ ranked player is not really a business — it's an unprofitable hobby.

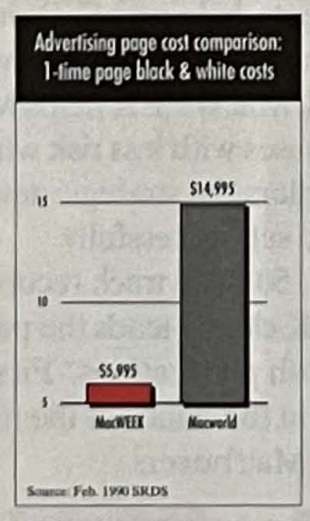
To thrive in the Macintosh market, dominate what the critical mass prefers: MacWEEK (chart two).

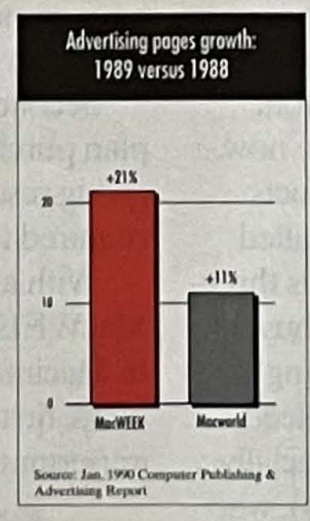
MacWEEK is also first in delivering an important ingredient for ROI: low ad cost (chart three). And first among Mac publications in ad pages growth (chart four).

To be first in the Mac market, advertise first in the publication that comes in first.









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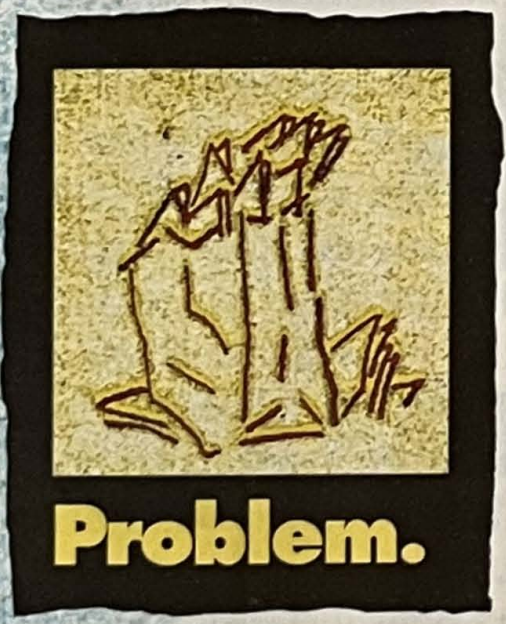

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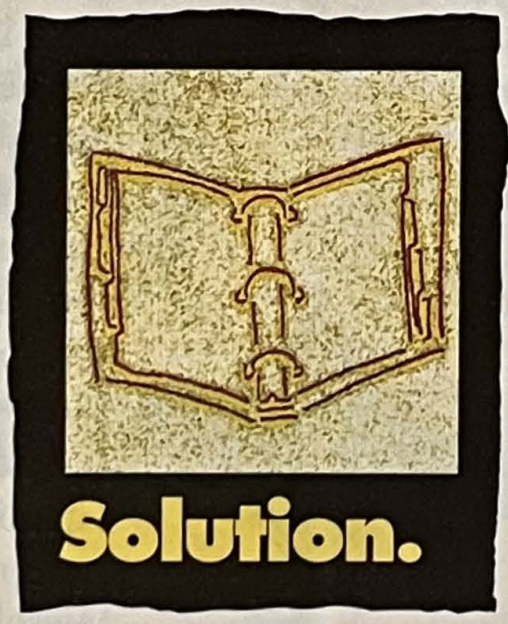

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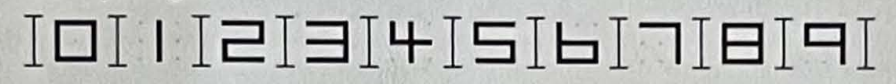

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REVIEWS

MORE of everything in Version 3.0

Graphics features beef up program

MORE 3.0

Symantec Corp.
List price: $395; upgrades $50, or free for those who bought MORE II after March 10

+ New drawing tools and color controls; still the most extensive outlining capabilities available; graphing and table-making application added; Chart Tutor, text rulers and dialog-box help messages make the program's power more accessible.

− User interface confusing in some places; graphing program not directly linked; still no way to open multiple views on the same file.

By Henry Norr

Bezier curves, 16 built-in color-mixing masks, 28 edge styles for chart frames, a virtually infinite variety of custom color-gradient fills — Symantec Corp.'s MORE has come a long way since its first incarnation four years ago created the desktop presentation category by combining bullet and tree charting with an outliner.

Version 3.0, the newly released, Arabic-numbered successor to MORE II, is more than a match — at least in terms of sheer wealth of graphics features — for the competitors that have since crowded into the market.

At the same time, the upgrade adds several features designed to make the program's formatting flexibility more accessible to mere mortals, including dialog-box help, word processing-style rulers in outline mode and a Chart Tutor that ushers users step by step through the process of setting up a presentation.

For all its new capabilities, however, MORE 3.0 still lacks the easy elegance of its No. 1 competitor, Aldus Corp.'s Persuasion 2.0 (see MacWEEK, Feb. 13). While Symantec's programmers have obviously worked hard to make the package easier to use, some aspects remain confusing. And users who had hoped that the new release would incorporate some of the organizing and categorizing tools that Symantec's own GrandView and other "personal information managers" have brought to MS-DOS users will again be disappointed.

Plenty of sizzle. Although MORE was one of the first programs to take advantage of the Macintosh II family's color capabilities, previous releases lacked color gradients, leaving the program unable to match the spectacular blended fills and backgrounds easily generated by Persuasion and Microsoft Corp.'s PowerPoint.

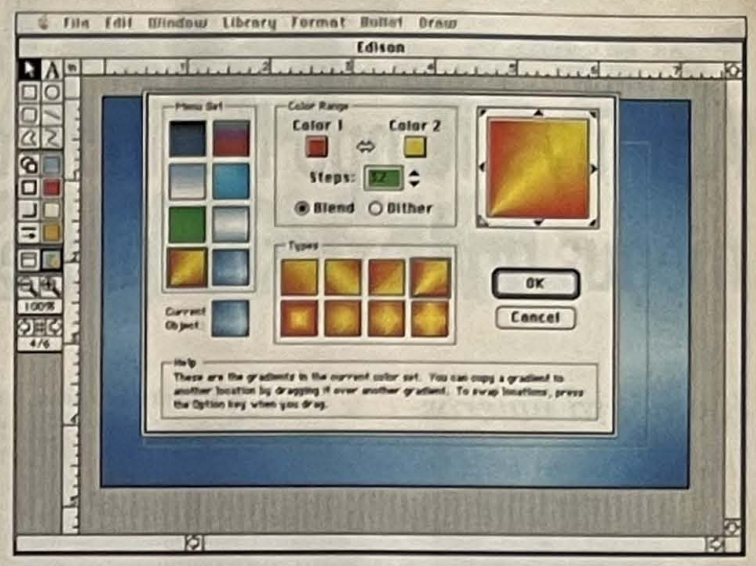
With MORE 3.0, Symantec has struck back with a vengeance. The Custom Gradient dialog available from both tree-chart and bullet-chart tool palettes lets users select any two colors available on the Color Picker, determine the number of steps (up to 128) the program should use to create the blend, and choose any center point and direction for the gradient. Layouts and color sets, including patterns and gradients, can now be stored for reuse.

New options for the artistically inclined include Bezier and polygon tools, and graphics can be imported into the outliner as well as onto the charts.

Once you've designed your presentation, you can print it out or turn it into 35mm slides; a utility for sending MORE 3.0 files to Autographix Inc., a slide service bureau, is included. (MORE II supported a competing service, Magicorp. For this review, we didn't test either one.) Or you can present your case on one or more Macintosh monitors; MORE's capabilities in this area, including multiple transition effects and a special control panel that helps speakers navigate and pace their presentations, have not substantially changed but remain unequaled.

Top of the charts? One feature that set Persuasion apart was an integrated worksheet that could be used to create tables and graphs for a presentation. MORE still has no such capabilities built in, but it now ships with MORE Graph, a separate application that can build table charts and standard business graphs from data entered into its own worksheet or from WK1, WKS, SYLK and BIFF-format spreadsheet files. The resulting graphics can be pasted or imported into MORE as a grouped PICT.

MORE Graph works as advertised, but by the standards of DeltaPoint Inc.'s DeltaGraph or Informix Software Inc.'s Wingz, its charts are hardly spectacular. Users who require fancy charts will still need one of these programs; those who can get by with the basics will, we suspect, continue to rely on their spreadsheet's graphing function.



Fighting back against Aldus' Persuasion 2.0, MORE 3.0 offers many flavors of gradient fills. The window displays the new integrated help that is standard in dialogs.

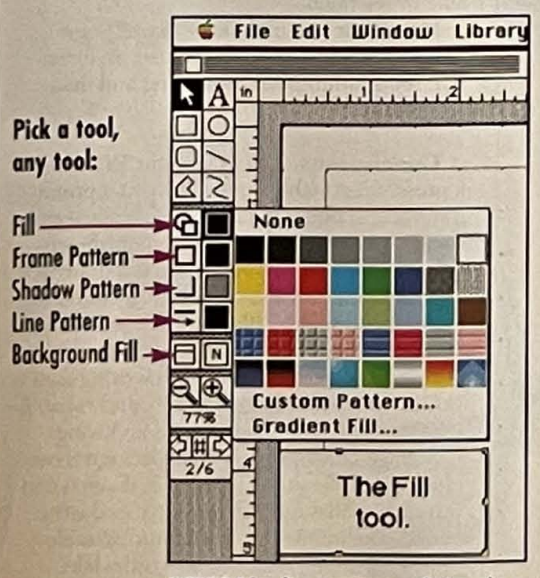
Rules and rulers. MORE's outlining and organizing capabilities have not changed substantially. Expanding, collapsing, hoisting, cloning, marking, gathering and other features popularized by earlier versions work as before.

Unfortunately, some longstanding limitations also remain: You still can't open multiple windows on the same outline or split a window into panes to see distant sections of a large outline simultaneously, nor can you see an outline and chart simultaneously.

The principal enhancements in Version 3.0's outliner are a new left-edge selection bar and selection of multiple, even discontiguous headings; editing of outline text in bullet-chart mode; and on-screen rulers for text formatting.

All formatting options are still available through rules, the

See MORE, Page 96



MORE 3.0 has five sometimes confusing color options. These color tools produce virtually identical pop-up color-selection menus.

Storage Dimensions' Tahiti tops the opticals

By Ric Ford

Promising higher performance than that available with other erasable optical drives, Maxtor Corp. announced its Tahiti I drive in 1988. It wasn't until this year, however, that a finished product reached Macintosh owners when Maxtor's subsidiary, Storage Dimensions Inc., finally released its $7,995 MacinStor Erasable.

The MacinStor Erasable uses a unique magneto-optical cartridge that packs more sectors onto the disc's outside tracks, resulting in almost twice the capacity of standard 5.25-inch cartridges — about 448 Mbytes per side in the Mac Finder.

The MacinStor Erasable also can read and write information on standard cartridges (512-byte-per-sector), such as those used with the Sony mechanisms we reviewed in our most recent comparison of magneto-optical drives (see MacWEEK, Jan. 16).

According to Storage Dimensions, the MacinStor Erasable's disk formatting is compatible with both A/UX 1 and A/UX 2 file systems, in addition to the standard Mac file system.

Performance. Overall performance of the MacinStor Erasable with its special cartridge was excellent, although not quite a match for a good hard disk. Reading data was much faster than any erasable optical drive previously tested, but writing speed was only average for its class.

Using a standard cartridge, performance dropped to the level of other erasable optical drives.

The package. The shoebox-shaped unit is styled and sized to fit beside Mac II-family machines. The MacinStor Erasable is not silent, and its noise can be intrusive in a quiet environment. The drive also puts out more heat than a hard disk, drawing air through a replaceable filter in the back and pushing it out the front.

See MacinStor, next page

MacinStor Erasable

Storage Dimensions Inc.
List price: $7,995, including one cartridge; proprietary-format cartridge: $395; ISO-format cartridge: $295

+ More capacity, speed than other magneto-optical drives; compatible with ISO standard; external SCSI termination; complete software package and documentation.

− Uses special optical cartridges; expensive; noisier and hotter than many hard drives.

Performance of erasable optical drives

Product	Cartridge sector size	TIMES IN SECONDS: Duplicate 766K file	DiskTimer II read	DiskTimer II write
MacinStor Erasable	Proprietary	8.5	6.0	19.5
MacinStor Erasable	512 byte	13.0	13.0[1]	22.5
Pinnacle REO-650 w/ OptiCache	1,024 byte	8.0	8.5	15.0
La Cie CM0600	512 byte	9.5	10.0	14.5
PLI Infinity Optical	512 byte	10.0	11.0	14.5
Pinnacle REO-650	1,024 byte	10.5	8.0	14.0
Summus LightDisk	512 byte	12.5	11.0	15.0
Microtech OR650	1,024 byte	13.0	10.0	14.0
Pinnacle REO-650	512 byte	14.5	12.0	22.0
FWB HammerDisk600	512 byte	15.0	11.0	31.0
Sumo RSSM600	512 byte	15.5	11.0	30.0
Macsetra Genesis 6000	512 byte	18.0	13.0	33.0
Relax Optical 600 Plus	512 byte	18.5	13.0	33.0

[1] *Time varied widely; time shown is average. Test configurations: System 6.0.x software, Control Panel cache turned off, 4-Mbyte Mac IIx or SE/30; Infinity Optical results shown with TurboCache disabled, Pinnacle/OptiCache results shown for default OptiCache settings.*

REVIEWS

Affinity's Tempo II+ Tools adds menus and external procedures

Keyboard macros automate keystrokes

By Vernon Keenan

If we didn't know better, we'd pity the poor power user who has to contend with a dozen or more applications daily. But a good macro program, such as Tempo II+ Tools from Affinity Microsystems Ltd., can ease the chore of launching and using myriad applications. Besides helping to navigate a loaded hard disk, keyboard macro programs automate repetitive keystroke sequences, such as those used in word processing programs, and they can "play back" ad hoc sequences of mouse actions or keystrokes.

Tempo II+ Tools

Affinity Microsystems Ltd.
List price: $29.95 for registered users; not available to non-registered users

+ Macro menu; new way to list macros; external commands (XCMDs); links to HyperCard and Excel.

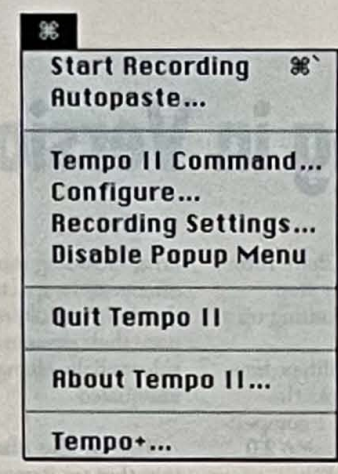
− Slow; potential for crashes; documentation needs work.

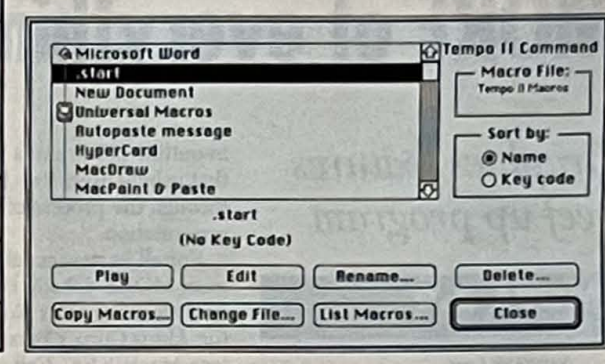
A feature parade. Tempo II performs all these tasks and a lot more with just a few blemishes. The standard macro-editing features are rather limited, however. You can view a macro only one line at a time, and any changes to the macro must be entered via dialog boxes. Tempo II provides a way to manage macro files, allowing them to be copied between files. The Autopaste feature is quite useful for storing company logos.

Available as an add-on to Tempo II, Tempo+ Tools introduces numerous new features, including a macro menu and external procedures, and enhances other aspects of Tempo II. A Tempo+ Menu Start-up document (INIT) can invoke any designated macro via a pop-up menu, but we wish it could be called up anywhere on the screen rather than by command-clicking the menu bar.

The Tempo+ Viewer application displays macros in a list, a useful feature. We were frustrated, though, that we couldn't actually edit the macros in these windows. We hope that future versions of Tempo II and Tempo+ Tools integrate macro viewing and editing in one module.

The most remarkable feature of Tempo+ Tools is the capability to call Tempo+ Externals, which are specially compiled C-language functions, from within a Tempo II macro. Affinity ships more than 20 externals (such as time and date stamps, sound players, and file manipulation tools) with Tempo+ Tools, and instructions for creating your own are available.





The convenient Autopaste command (left) can be used for storing information such as company logos. The command window (below) lists macros that can be played or edited. Tempo can now copy macros between files.

Tempo+ Tools significantly enhances HyperCard and Excel. Several external commands (XCMDs) and external functions (XFCNs) are included that allow HyperTalk programs to play back, check the status of, index and create new macros. A chain of macros can be created that performs functions within HyperCard and other applications. Affinity ships an Excel external code resource that allows Excel macros to play back Tempo II macros. Tempo macros also may call Excel macros.

Installation and documentation. Installation of Tempo II is straightforward, consisting of copying a few INITs and resource files to the System folder and installing a desk accessory. You can run a macro at start-up time by setting a special application as the start-up application.

We were disappointed with the quality of Affinity's documentation. Although most of the basic elements are there, the user manuals were poorly edited and there is a mere sprinkling of screen shots and illustrations. More useful sample macros and explanations would have been helpful. The Tempo+ Tools documentation is especially tedious, with a complex installation procedure crammed into a single page.

Performance. As with all macro utilities, Tempo II can slow down your Mac and make it more prone to crashing. We used Tempo II to automate program launching, to perform simple text-editing functions in Microsoft Word 4.0 and to automate drawing figures in MacDraw II 1.1. Tempo II coexisted well with our INIT setup and overrode modal dialog boxes as advertised. With this version, Affinity has made a solid product, but we wish it would play back macros a bit faster.

Conclusions. We found Tempo II and Tempo+ Tools to be worthy products that fill a special niche with the expanded XFCNs and links to HyperCard and Excel. The introduction of the macro menu function should help new users grow accustomed to using predefined macros. We hope that in the future Affinity will upgrade the quality of its documentation and merge the two products into one package.

Affinity Microsystems Ltd. is located at 1050 Walnut St., Suite 425, Boulder, Colo. 80302; (303) 442-4840. □

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MacinStor

From previous page

Like other MacinStor products we've reviewed, the MacinStor Erasable is a complete package, with a cartridge, SCSI cable, external SCSI terminator, easily configured SCSI addressing, good documentation and user-friendly configuration software. The warranty is for one year, and technical support is available by telephone.

MacinStor also includes Central Point Software Inc.'s MacTools Deluxe, an extensive set of utilities for protecting and managing data.

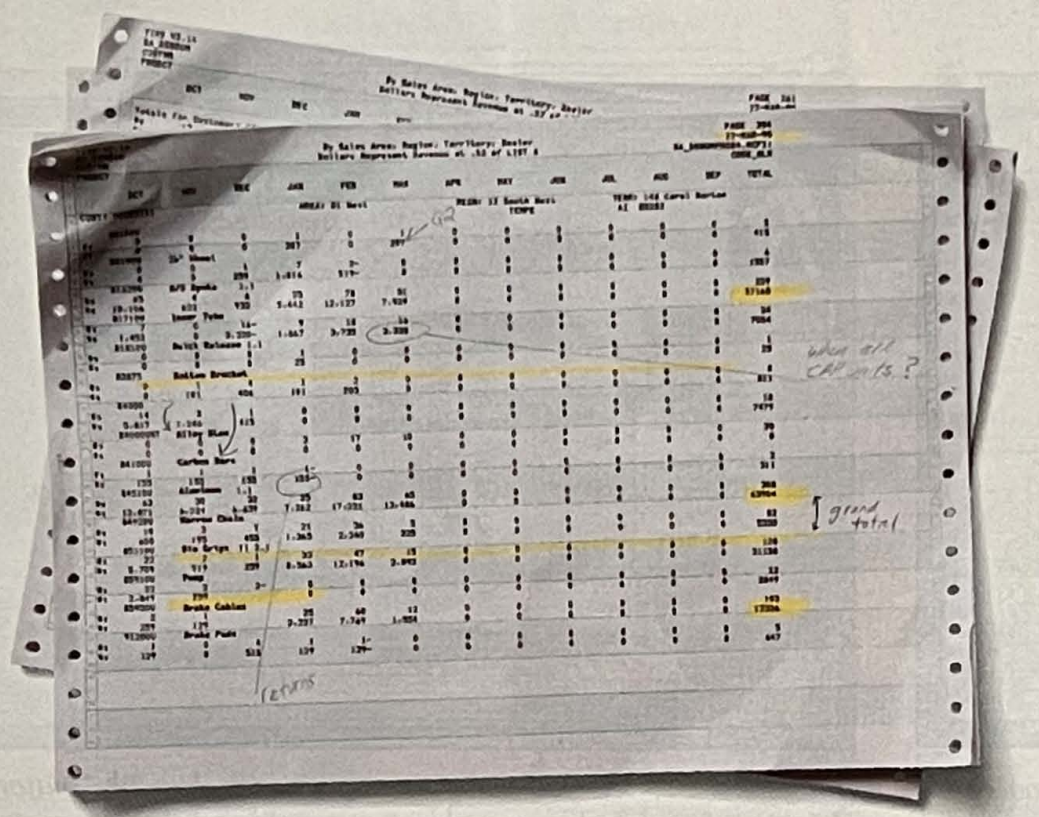
Conclusions. The MacinStor Erasable is a premium erasable optical drive at a premium price. It offers the best performance and capacity we've seen yet, although its dependence on proprietary cartridges is a drawback.

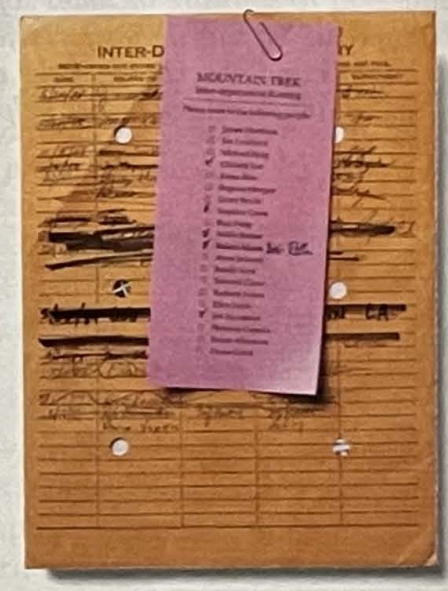
The MacinStor Erasable is well-suited to applications such as playing back sound and animation files, because it reads data almost as fast as a hard disk. Although writing data is slower, the drive's large capacity and reliability make it ideal for backup and archiving.

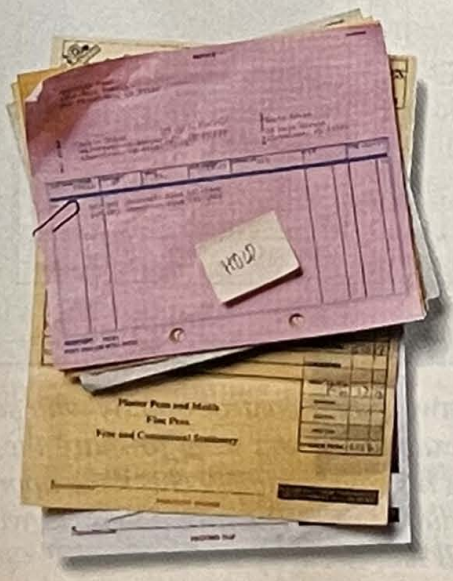
Storage Dimensions' overall package is complete and professional, and our evaluation unit was rock-solid during an extensive evaluation period. The impressive MacinStor Erasable proves that a long wait can be worthwhile.

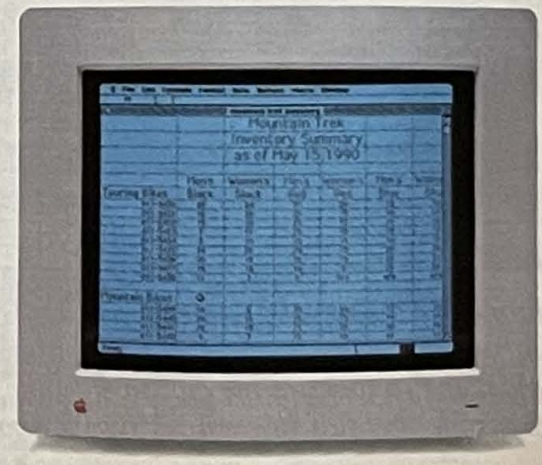
Storage Dimensions Inc. is located at 2145 Hamilton Ave., San Jose, Calif. 95125; (408) 879-0300. □

You can't always choose the data you have to manage.

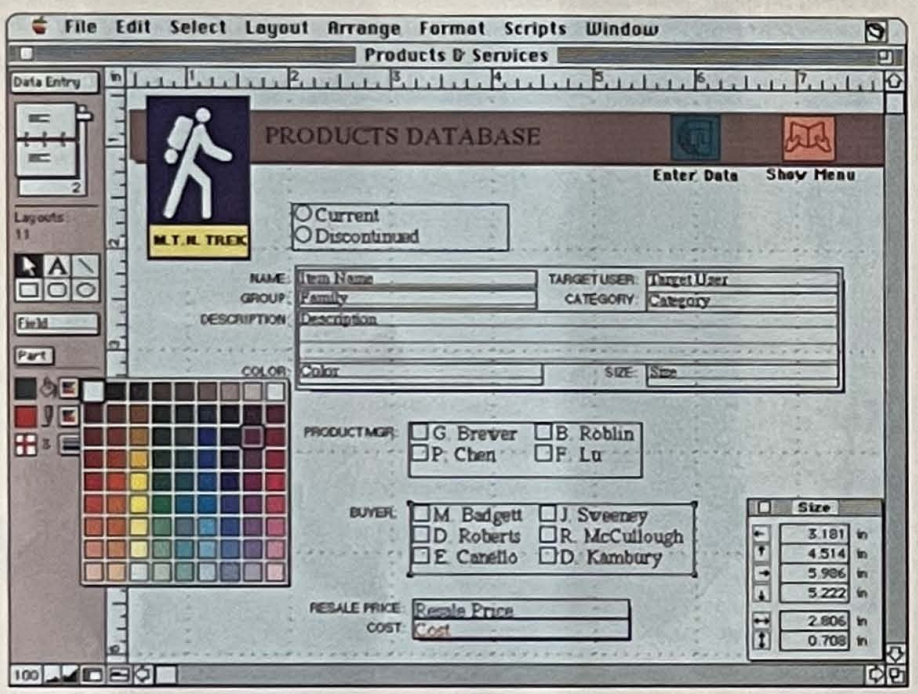




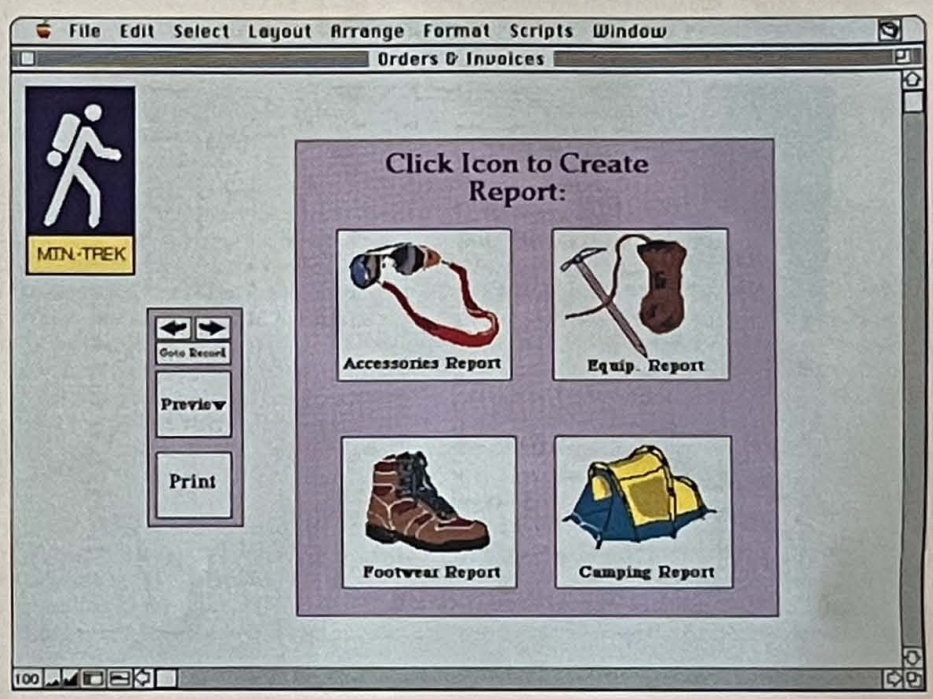




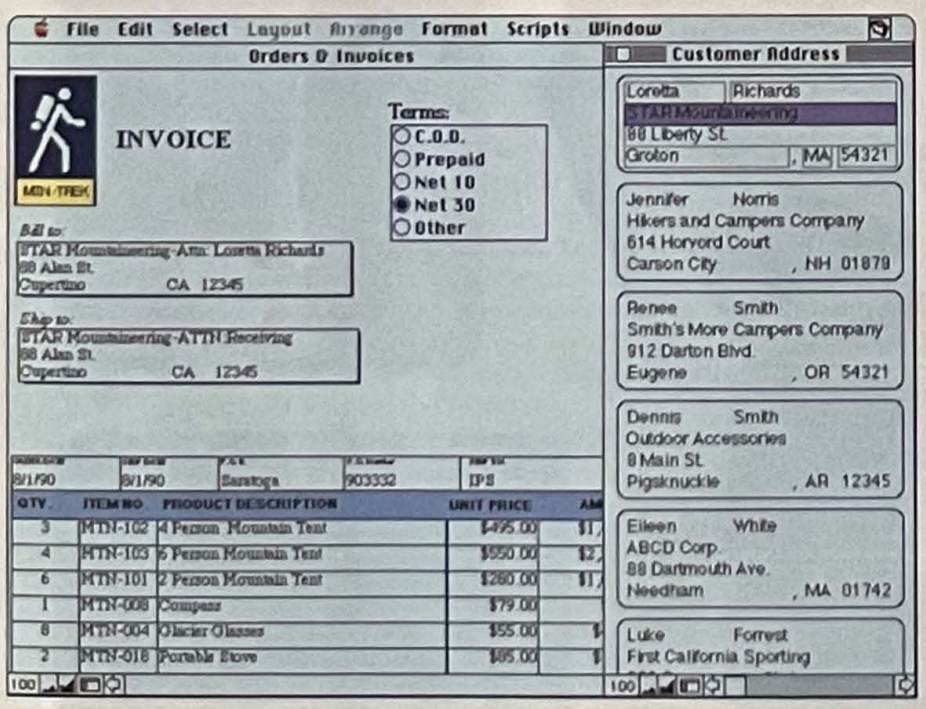
But you can choose how to manage it.



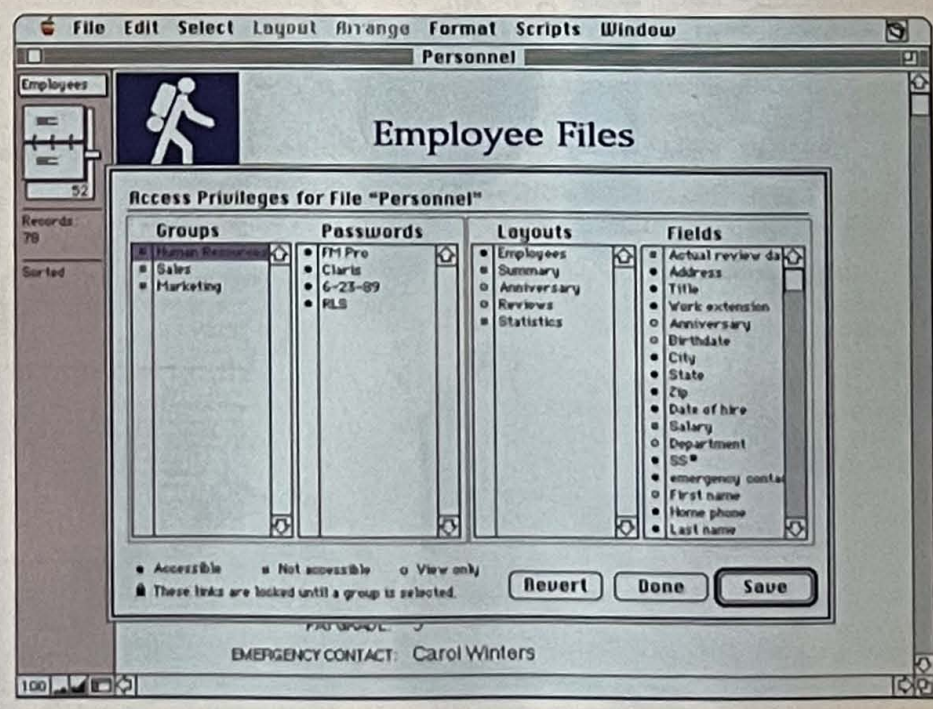
FileMaker® Pro software includes sophisticated drawing tools so you can create layouts in any form you choose. Pop-up menus, radio buttons and checkboxes make entering data fast and accurate. And a full palette of colors helps people vividly see your thoughts.



FileMaker Pro lets you automate repetitive tasks with "buttons." It's easy. Simply select any object or graphic on the screen and a "button" is born. Buttons can invoke commands, trigger scripts, and switch layouts—all without plodding through a programming language.

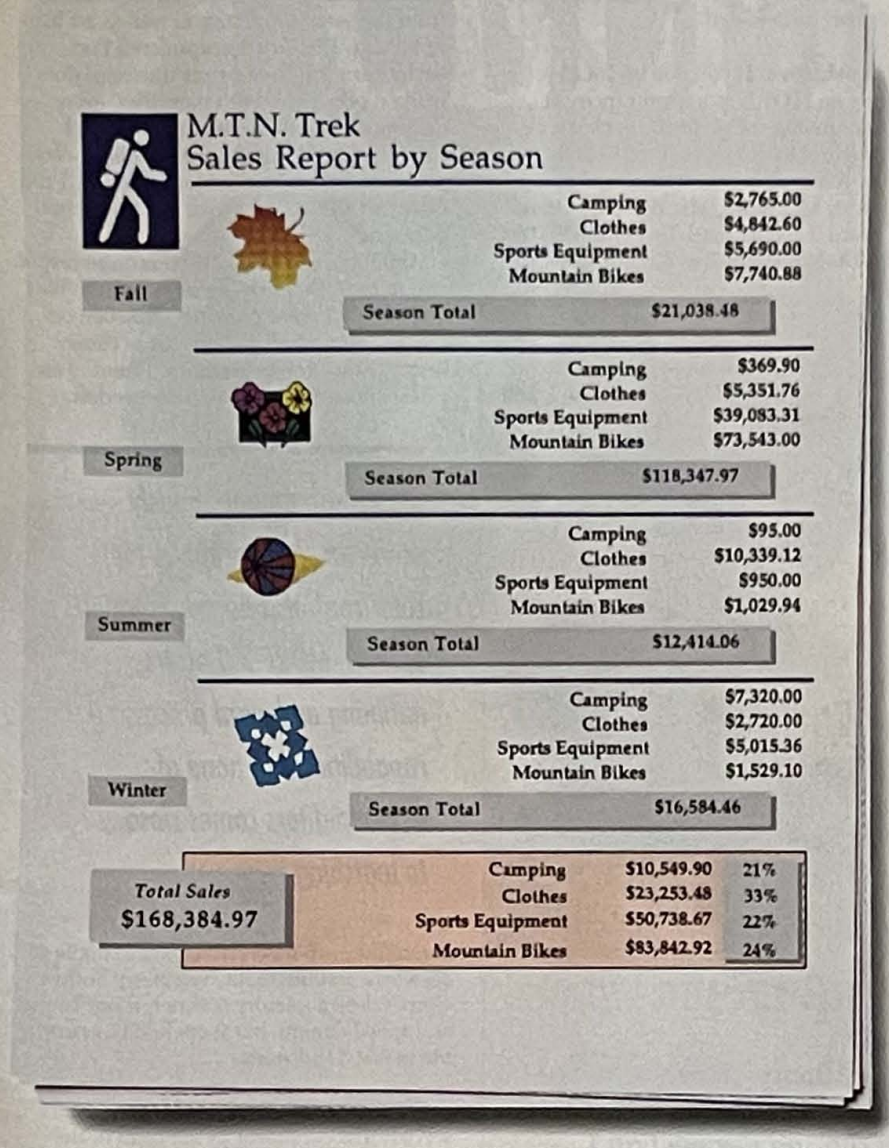


Multiple-file lookups let you relate data. For example, when you want your monthly invoices to each show customer address, FileMaker Pro looks at the customer name, searches the customer address file and fills in each address for you—all automatically.



You can share files on a network and control exactly who sees what on their screen. For example, if you want to share the hire date of an employee, but not his salary, simply check the appropriate boxes in the access dialog box. The hire date field will be shown. The salary field will not. Security is this simple.

And publish it.



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$289.99
See Page 12 for Ordering Information
30

Your job demands information, not data. FileMaker Pro includes a range of calculation functions: It turns raw data into business information. And with MacDraw®-based tools built in, you can display this information on the page any way you want.

All that data you've got stored can be published in eye-catching color, and in any format you can imagine. You can publish directories, forms and catalogs with precision and ease. It's almost like having a database publisher built in.

If collecting data were all it took to get promoted, we'd all be president.

Unfortunately, the world demands you actually do something with your data. And then present it in a compelling and useful way.

Which is where FileMaker Pro comes in. It's the #1 database manager for the Macintosh, stuffed with new power.

There's powerful scripting with user-definable buttons for automating tasks. Multiple-file lookups for relating data. Network access with field-by-field security for workgroups. And flexible report generation, including color and database publishing tools.

Yet, FileMaker Pro does all this without making you learn a complex programming language.

If it sounds simple, it is.

You'll find a few surprises, however. All of them pleasant.

As you use FileMaker Pro you will find more and more things to do with it. This "revealed power" is what makes FileMaker users FileMaker fanatics.

What's more, you will experience the seamless way that FileMaker Pro fits with other Claris® software. The graphic and text tools work the same as they do in our other products—so you spend more time on business and less time remembering commands. There's also XTND, a Claris invention that lets you easily exchange text and graphics with other software and computers without loss of formatting. All this raises Macintosh productivity to a new level.

But why not see for yourself? Simply stop by an authorized Claris dealer and ask to see FileMaker Pro. It's the start of a better way to manage the data you have to manage.

FileMaker Pro.
The #1 database manager for the Macintosh.

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MORE

From Page 91

powerful system for developing style-sheet-like custom-formatting procedures that Symantec introduced with MORE II. But the on-screen rulers, which look and in most respects work like MacWrite's, are a welcome addition for users (this reviewer included) who find the rules interface daunting.

We encountered a few limitations and unfamiliar procedures, but these problems were minor and easily worked around. For example, you can't copy and paste a ruler, but the Copy Rules command serves the same purpose. We did encounter a bug that made it impossible for us to set the right inset where we wanted it via the ruler.

Some people have always used MORE as a word processor for memos, letters and reports. With Version 3.0's rulers, many more are likely to do so. And since the program automatically generates rules to match changes made on the rulers, the new feature could have the effect of opening the full power of the rules system to some of those previously intimidated.

Translators. If you don't want to rely entirely on MORE as a word processor, you can use the translators provided with the program to export your outlines in any format you are likely to want, including plain text, MacWrite, MacWrite II, Microsoft Word 3 and 4, TeachText, WordPerfect and WriteNow, as well as GrandView and other, older Symantec outliners.

The translators also let you import files from the same programs, as well as art in MacPaint, PICT or Encapsulated PostScript formats. In our tests the translators worked effectively with most files, even dealing successfully with footnotes and pasted-in graphics, although opening a couple of documents from MacWrite II 1.1 did cause MORE 3.0 to choke and "unexpectedly quit."

Although MORE 3.0 itself is quite responsive in most functions, even with large files and complex color graphics, and even on 68000-based machines, the same cannot be said of its import routines: Running on a Macintosh IIfx, the program needed one minute, 46 seconds to open a simple 46-Kbyte text file. Acta, Symmetry Software Corp.'s desk accessory outliner, is not known as a speed demon, but it opened the same file in just 21 seconds.

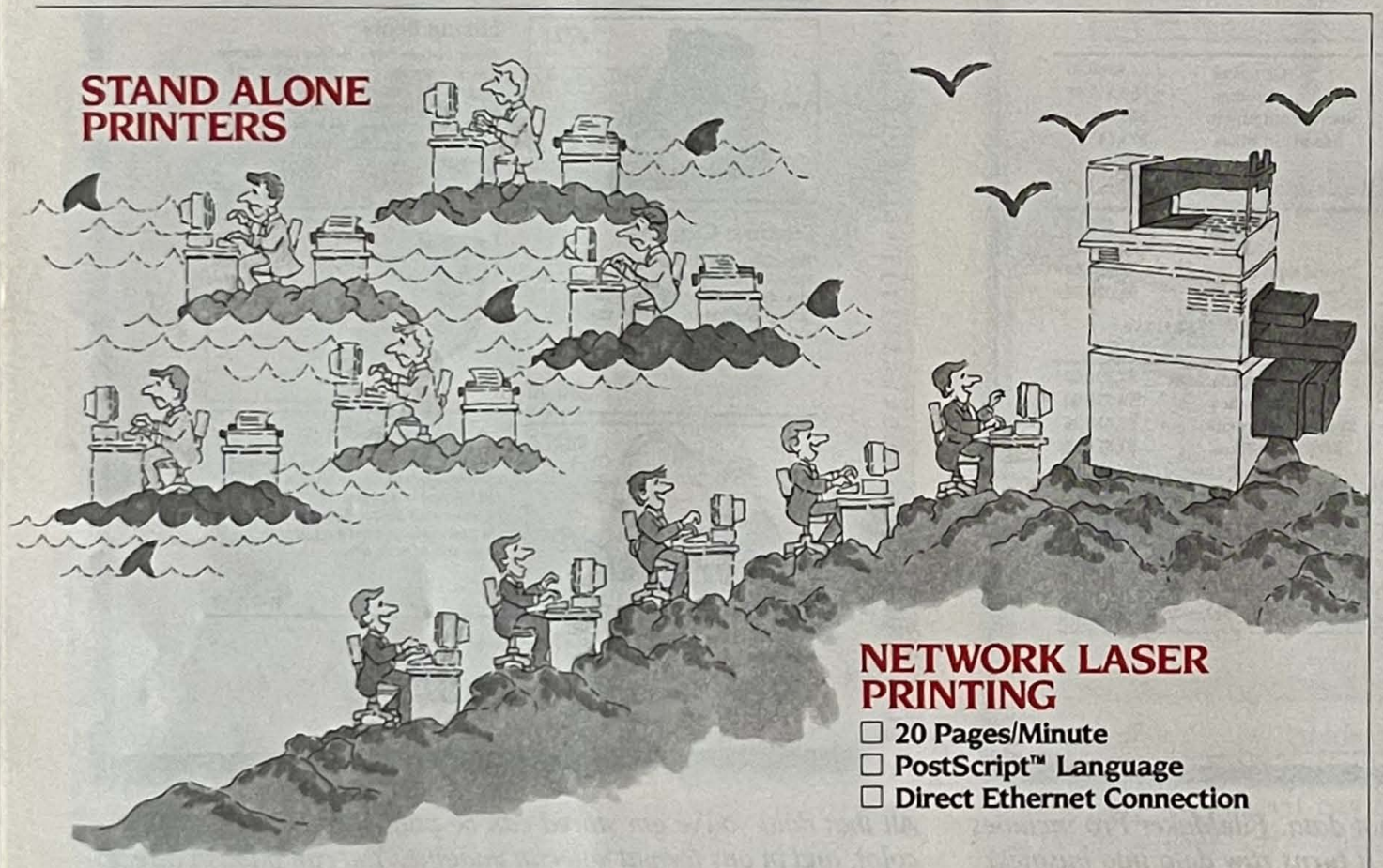
Along with an enormously powerful set of graphics tools, color controls and presentation options, MORE 3.0 offers outlining and word processing capabilities that none of its competitors comes close to matching.

Conclusions. Measured by its feature set, MORE 3.0 moves to the head of the pack: Along with an enormously powerful set of graphics tools, color controls and presentation options, it offers outlining and word processing capabilities that none of its competitors comes close to matching. And MORE Graph offers at least basic table-making and graphing tools for those who have no better solution available.

Our major reservation about MORE 3.0 is that its vast array of options can sometimes be overwhelming. Symantec has obviously been listening to users who complained that the previous version was too complicated, but some interface problems remain. MORE 3.0's bullet-chart tool palette, for instance, has five separate icons, displayed one above another, for controlling its extended color options. Unfortunately, the five are all plain rectangles that are visually indistinguishable, except by the colors selected, and even clicking on them doesn't help you figure out which is which.

A deeper concern, however, is whether the program's designers have not succumbed to the disease of "featuritis." As we explored the program's nooks and crannies, we wondered whether users wouldn't be better served if MORE were less, offering fewer options but more focus.

MORE 3.0 makes us suspect that a modular approach to program design would be better. With luck, System 7.0 will be available by the time MORE 4 rolls around, and at that point we hope Symantec will have the courage to consider dismembering the program into a suite of separate, focused applications using Interapplication Communications to let users assemble the capabilities they need. □



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Help Desk

LaserWriter 6.0: The 'other' driver

I upgraded the Macs on my network to System 6.0.5, including installing the new LaserWriter driver. But one user has a driver with a later release number than the one on the 6.0.5 disk. Should I be using this driver?

Your confusion is understandable since there are, in fact, two current versions of the LaserWriter driver. The one your user has is Version 6.0. The latest version (6.0.1) is available on the Printing Tools disk of System 6.0.5, but it first appeared on the Apple Color Disk. This disk was introduced a little more than a year ago and contained the original 32-bit QuickDraw file (6.0.5 includes an updated version), some example programs and the LaserWriter 6.0 driver.

The main feature of the 6.0 driver is color printer support: It will work directly with color PostScript printers. It also will do a fair job of printing color or gray-scale pictures on a standard black-and-white laser printer. (It does this by dithering, a technique for simulating the appearance of gray scales with patterns of black dots.)

BY DAVID RAMSEY

The 6.0 driver exists in a kind of limbo. It's available if you need it, but it conflicts with the non-color driver; doesn't work with some color PostScript printers; and in general seems to be something Apple would like to forget about, at least until the company has its own color printer.

The LaserWriter driver automatically installed with System Software 6.0.5 is Version 5.2, which is stable and hasn't changed for the past few system releases. It's probably what you should use on your network, unless someone needs to print something in color.

I installed Microsoft Windows 3.0 on my '386 system. However, when it comes up, it's in real mode, not enhanced mode. What's the problem?

The problem is probably that you told the Windows installation program not to modify your CONFIG.SYS file. Thus, you don't have the necessary HIMEM.SYS driver loaded, without which Windows 3.0 won't run in enhanced mode. To verify this, type "win /3" to invoke Windows. If you get a message saying HIMEM.SYS isn't installed, that's your problem.

Are you sure you didn't mean to send this question to PC WEEK?

Crash recovery. Some crashes are recoverable; that is, you can resume operation without rebooting your Mac. Knowing how can be useful if you're running under MultiFinder, since it will enable you to save information you have in other programs that were running when the crash occurred. The unsaved work in the foreground application is usually lost.

To do this, you'll need the Macsbug debugger, which you can get from a dealer or other Mac user. To install it, you simply drop the file into your System folder. The next time you boot, you'll see a "Macsbug installed" message under the "Welcome to Macintosh" greeting. Macsbug is a powerful machine-code debugging tool and will occupy from 50 to 90 Kbytes of your Mac's memory, depending on which version you're using.

If you have Macsbug loaded, a crash will cause your screen to switch to a mysterious display of numbers and letters instead of showing the usual bomb box. This is Macsbug. When you land in Macsbug, try typing ES (it stands for Exit to Shell) and pressing Return. Often, this will return you to the Finder, after which you should save all your open files and restart.

If you want to see what your machine was doing when it crashed, pressing the accent key on your keyboard will toggle the display between Macsbug and the screen that the Mac displayed just before the crash.

The ES trick doesn't always work; sometimes you'll immediately crash again. But it works often enough to be useful. If you can't get running, type RB to reboot the Mac. □

Please send questions to David Ramsey on CompuServe: 76702,335 or to Help Desk, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

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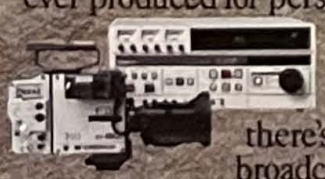

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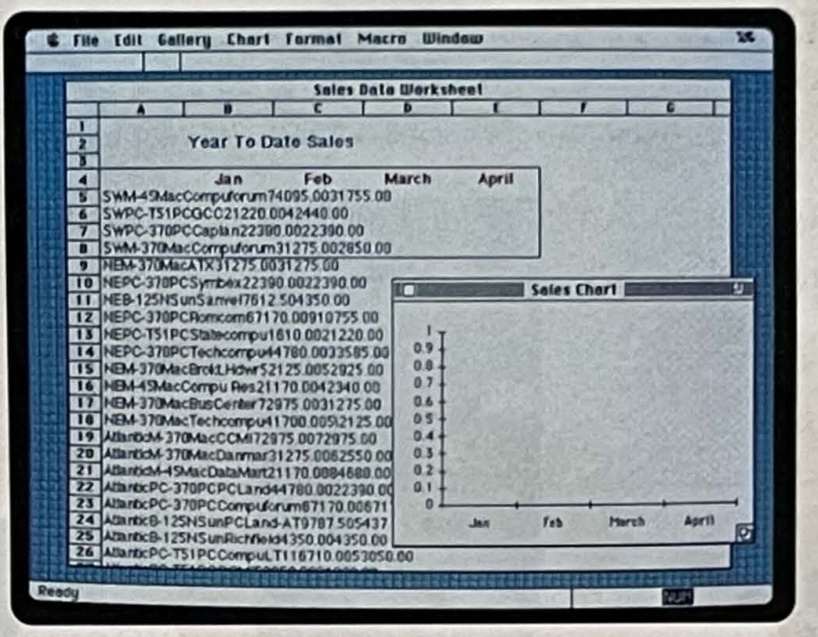

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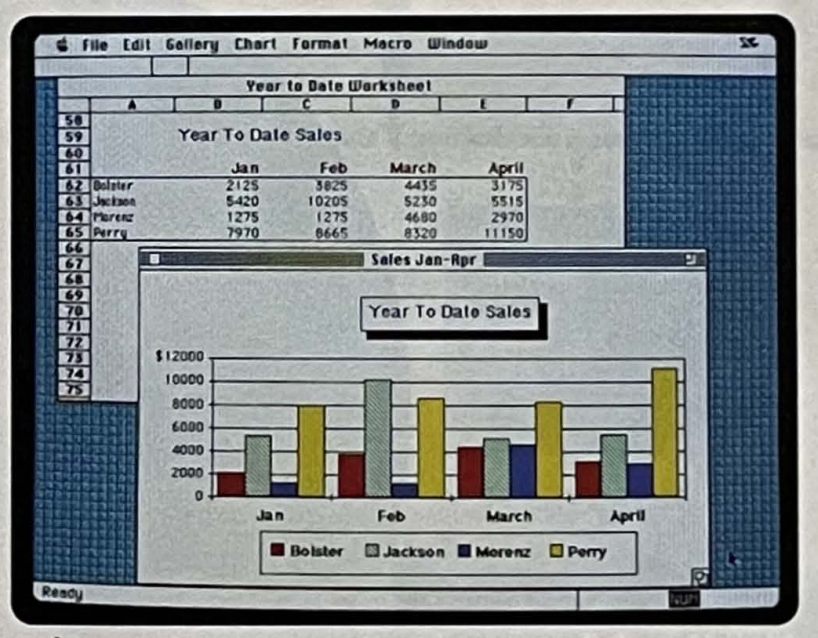

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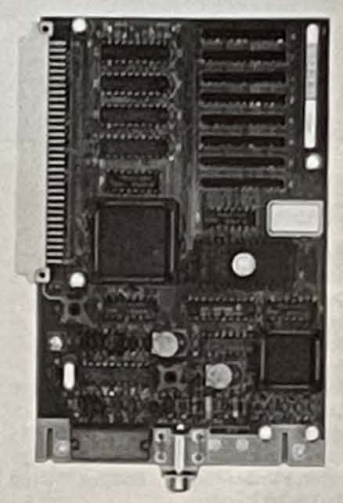

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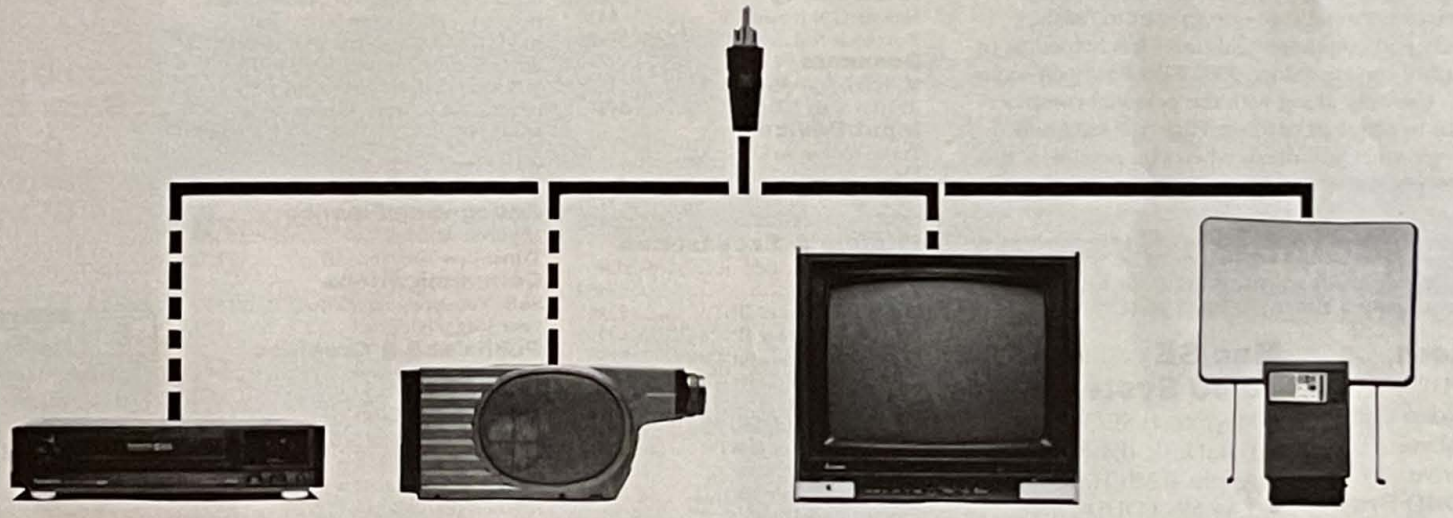

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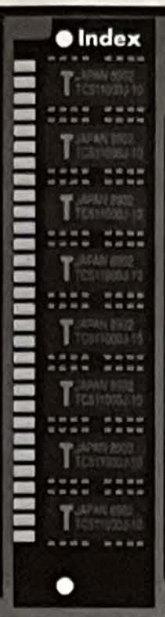

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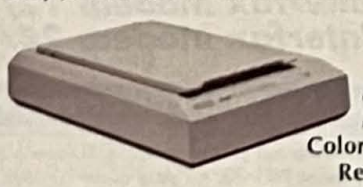

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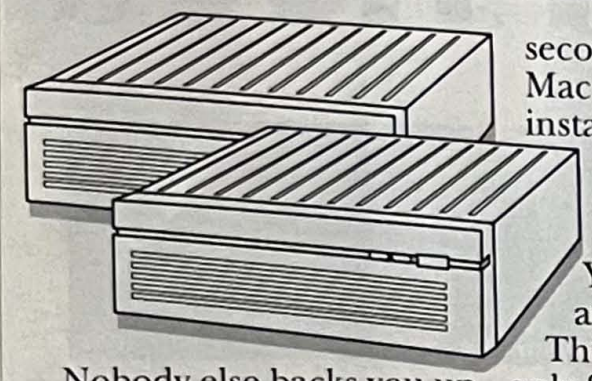

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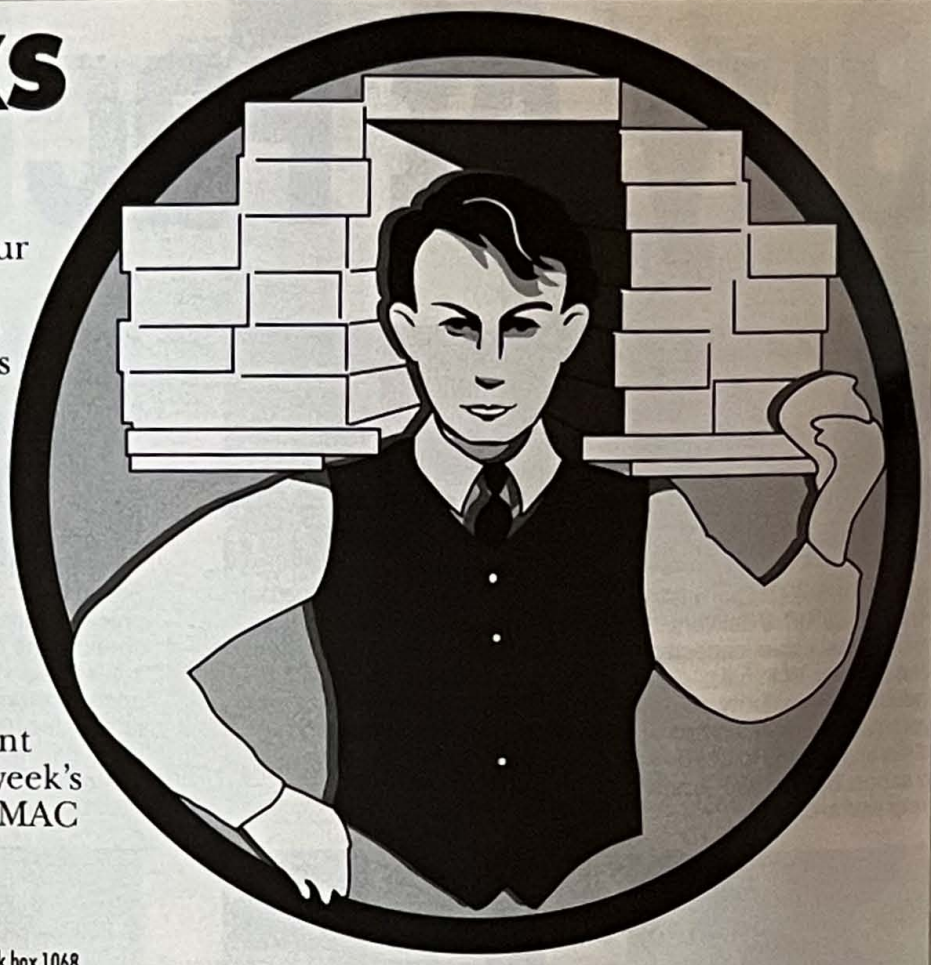

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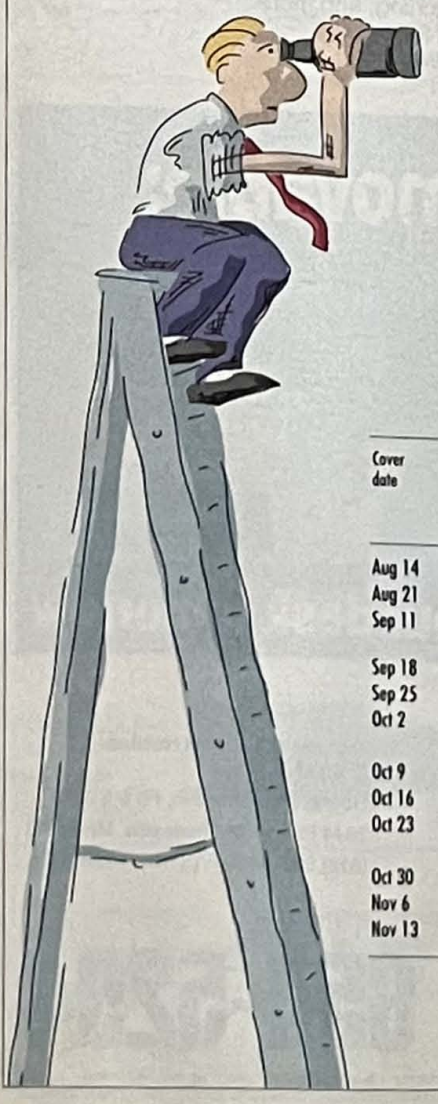

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Cover date	Product Watch, Special section	Close for Display ads, MarketCenter, Career Opp.	Close for Special sections, GA, ProductWatch Ad Showcase
Aug 14	**Add-in Cards**	Aug 3	Jul 31
Aug 21	**GA**	Aug 10	Aug 7
Sep 11	**Networking**	Aug 30	Aug 28
Sep 18	**Utilities**	Sep 7	Aug 4
Sep 25	**GA 100**	Sep 14	Sep 11
Oct 2	**Display Systems, GA**	Sep 21	Sep 18
Oct 9	Databases	Sep 28	Sep 25
Oct 16	**Business Productivity, GA**	Oct 5	Oct 2
Oct 23	Storage Supplement	Oct 12	Oct 9
Oct 30	GA	Oct 19	Oct 16
Nov 6	**In-house development**	Oct 26	Oct 23
Nov 13	Printers, Gateways	Nov 2	Oct 30

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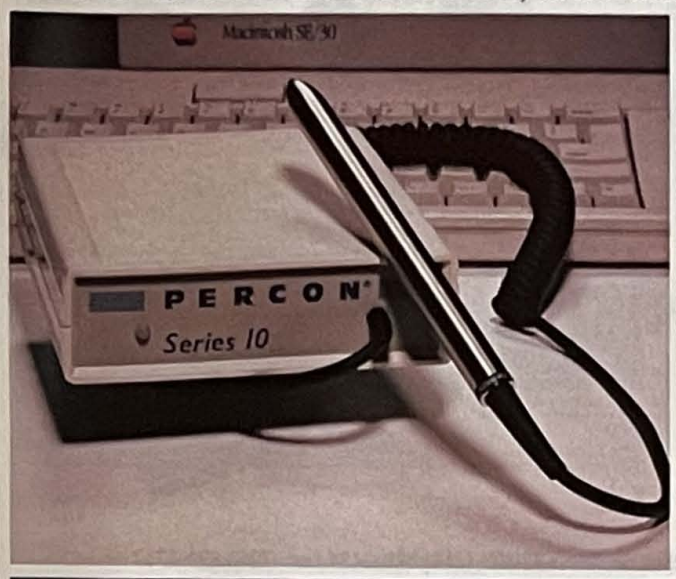

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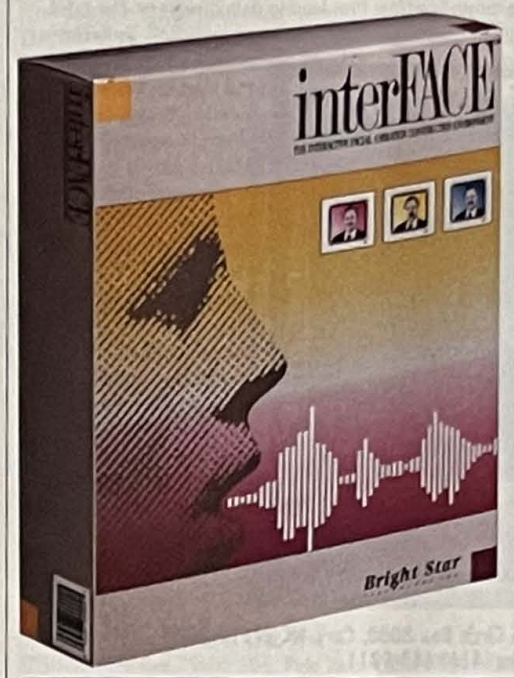

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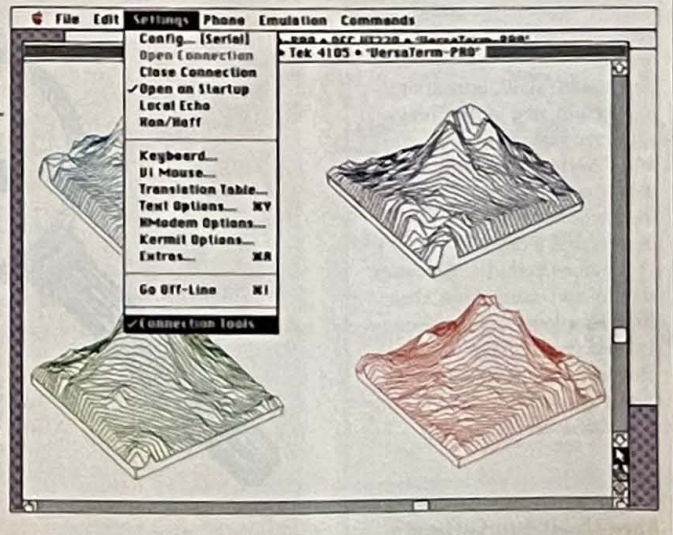

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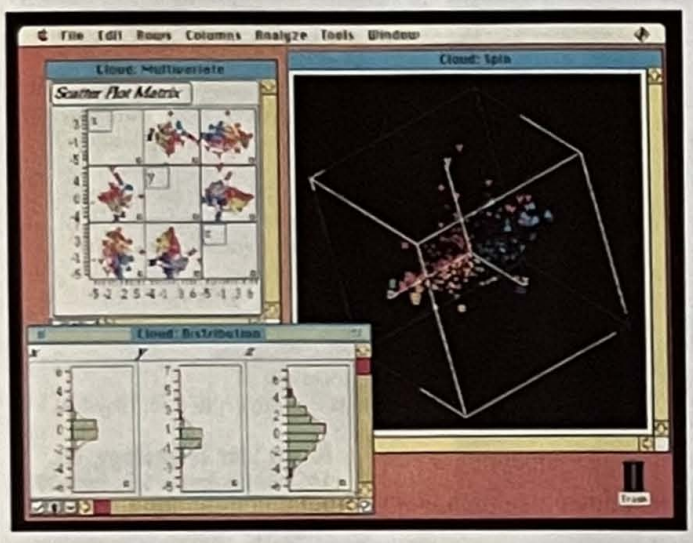

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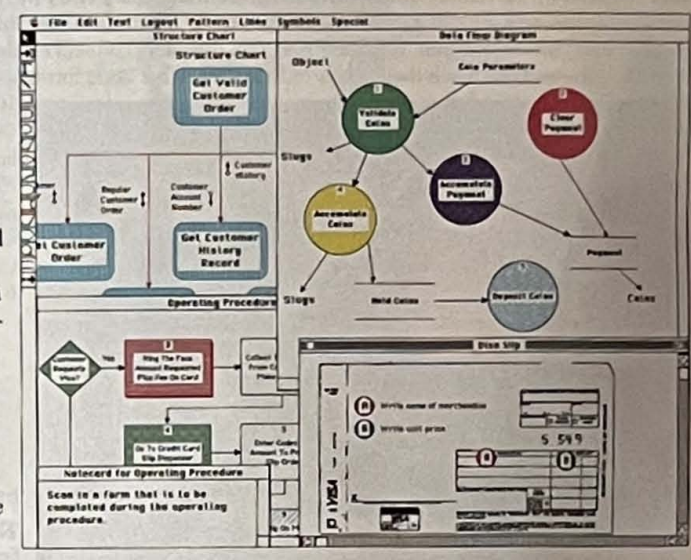
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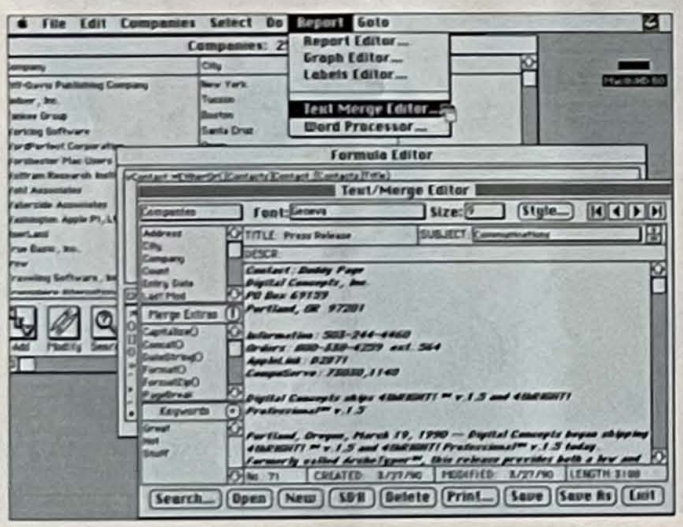

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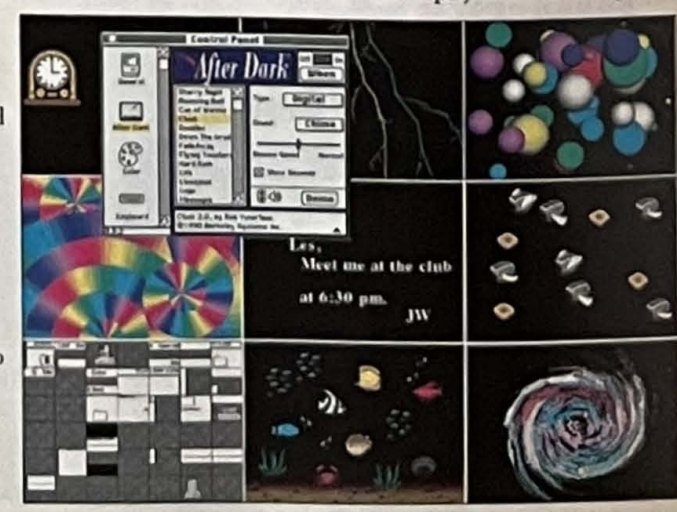

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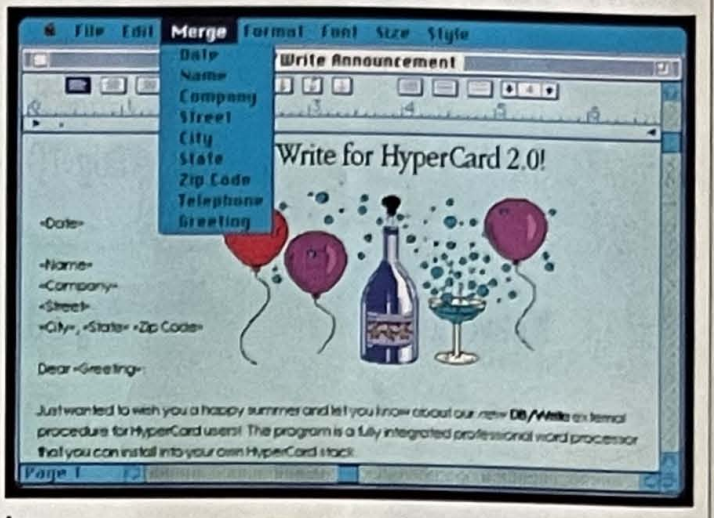

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Aug 21	GA	Aug 10
Sep 11	Networking	Aug 30
Sep 18	Utilities	Sep 7
Sep 25	GA 100	Sep 14
Oct 2	Display Systems, GA	Sep 21
Oct 9	Databases	Sep 28
Oct 16	Business productivity, GA	Oct 5
Oct 23	Save	Oct 12

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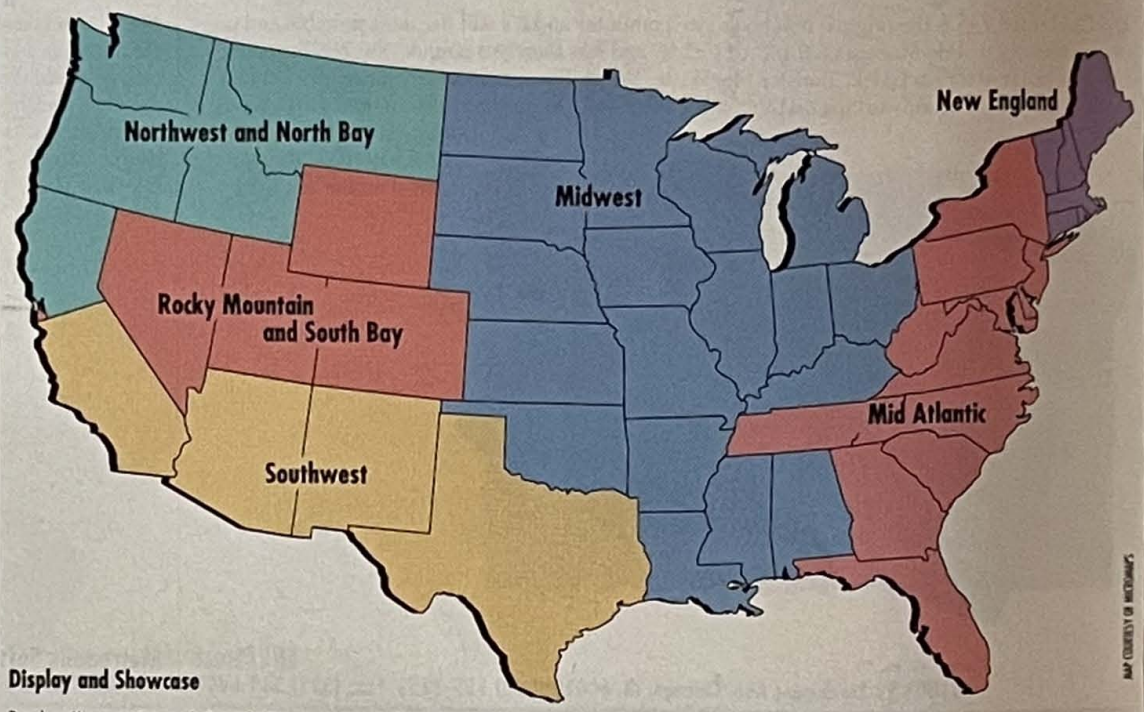

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Advertiser Index

Aapps	47	Corporate Source	106	Intelligent Resource	98	Mirror Technology	105	RasterOps	69
AbraMacDabra	108	CoStar	107	Kaetron	108	Mobius	27	SAS Institute	108
ACIUS	21	Cypress Research	20	Kensington Microware	11	Monotype	64	Seybold	70
Adobe	60	Dantz	64	Kodak	52	MTI	96	Sharp Electronics	54
AEC Management	124	Data Translation	75	La Cie Ltd.	36	NEC	12, 13, 37, 61	Shiva Corp.	132
AGFA	62, 71, 72, 73	Dayna Communications	81	Lapis	128	Oracle	7	Silicon Beach	56
AirLand	30	Daystar Digital	2	LaserMax	58	Orange Micro	26	Soft & Hardware That Fits	104
AISoft	126	DCA	16, 17	Linotype AG	57	Pacific Data	74	Sony	129
Apple	4, 5, 39, 65	Digital Concepts	108	MacAvenue	43, 131	Percon Inc.	107	Spectral Innovations	107
Articulate Systems	31	Dupont	83	MacroMind	25	Pinnacle Micro, Inc.	127	Storage Dimensions	24
Asante	50	Ehman Engineering	97	MacTel Technology Corp.	103	Pixar	100	Symantec	15
AT&T	23	EMAC	79	MacWAREHOUSE	63	PLI	85	Synergy	107
Berkeley Systems	108	Engage Communications	109	Magna	38	ProCom	8	TechnologyWorks	130
Bright Star	107	ERI Direct	109	Merida	128	Prometheus Products	109	Texas Instruments	55
Cassady & Greene	82	Fifth Generation	14	Meridian Data	22	QMS	29	Tri-Data	18, 28
Cayman Systems	66, 67	GCC Technologies	49, 51	Metropolis Software	109	Racet	92	UCSB	62
CDA	102	GE Rents	9	MicroNet Technology	89	Ragtime USA	108	Vent	101
CE Software	76	HJC	9	Microsoft	44, 45				
Claris	19, 93, 94, 95	IDEAssociates	99	Microtek Labs	68				

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1 Your company's primary business activity at this location:

(Select one only.) Write Answer Here ➨ ☐

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04. Graphic Arts
05. Communications: Publishing, Advertising, Public Relations, Promotion
06. Government: Federal
07. Government: Non-Federal
08. Manufacturing
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23. Manufacturer (Computers, Software, Peripherals)
24. Computer Consultant
99. Other Businesses & Services (please specify) _____

2 Your Professional Title:

(Select one only.) Write Answer Here ➨ ☐

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C. General Manager/Director
D. Micro Manager/Specialist/Coordinator
E. Project Manager
F. Art Director/Graphic Designer/Artist/Illustrator
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O. Accountant
P. Representative
Z. Other (please specify) _____

3 Your department/function at this location:

(Select one only.) Write Answer Here ➨ ☐

A. Engineering/Systems Engineering
B. Research & Development
C. Communications/Publishing/Public Relations
D. Art/Creative Design
E. MIS/DP/Information Systems
F. Manufacturing/Operations/Production
G. Sales/Marketing
H. Administration/Management/Personnel
I. Accounting/Finance
J. Education/Training
K. Science
L. Consulting
Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

☐ Yes ☐ No (Write in accurate quantity for all that apply):

		Currently Owned (Quantity)	Plan to Buy (0-12 Months) (Quantity)
Macintosh IIfx	1		
Macintosh IIcx/Macintosh IIx	2		
Macintosh IIci	3		
Macintosh II	4		
Macintosh SE/30	5		
Macintosh SE	6		
Macintosh Portable	7		
Macintosh Plus	8		
Macintosh (Other)	9		
IBM/Compatible Micro	10		
Workstation (e.g. Apollo, Sun)	11		

Please remember to sign and date the form.
All questions must be answered completely, and be sure to provide specific numbers where requested.
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5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year?

(Answer one only.)
A. Retailer: sold per year _____ (specify quantity)
B. Reseller: resold per year _____ (specify quantity)
C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
☐ D. Not Applicable

6 Please check the Mainframe(s) or Minicomputer(s) at your location:

(Check all that apply.)
☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

☐ Yes (If yes, please check all that apply) ☐ No

Computers
☐ 01. Macintoshes
☐ 02. Workstations
☐ 03. Minis, Mainframes

Connectivity
☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communications Software

Peripheral Equipment
☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 25. Plotter, Charting Devices
☐ 26. Scanners

Add-in Boards
☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 42. MS DOS Boards
☐ 43. Ethernet Boards

Software
☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 58. Music
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?

(Select one only.) Write Answer Here ➨ ☐

01. 500+
02. 100-499
03. 50-99
04. 20-49
05. 10-19
06. 4-9
07. 1-3
09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have:

(Check all that apply.)
☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
☐ 03. Communicate with remote mini or mainframe computers
☐ 04. Communicate via modem
☐ 05. Voice/Data
☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company:

(Select one only.) Write Answer Here ➨ ☐

01. 1000 or more 02. 100-999 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

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INDEX

111 Memory Upgrades
Boards
Disk Drives
SIMMs

116 Software
Business Management
Desktop Publishing
Education
Finance
General
Graphics
Hyperstack
Investment

117 Hardware
Bar Coding
Cables
General
Peripherals

120 Special Services
General
Programming
Toner Recharging
Used Equipment

122 Accessories
122 CD ROM
122 Connectivity
Miscellaneous

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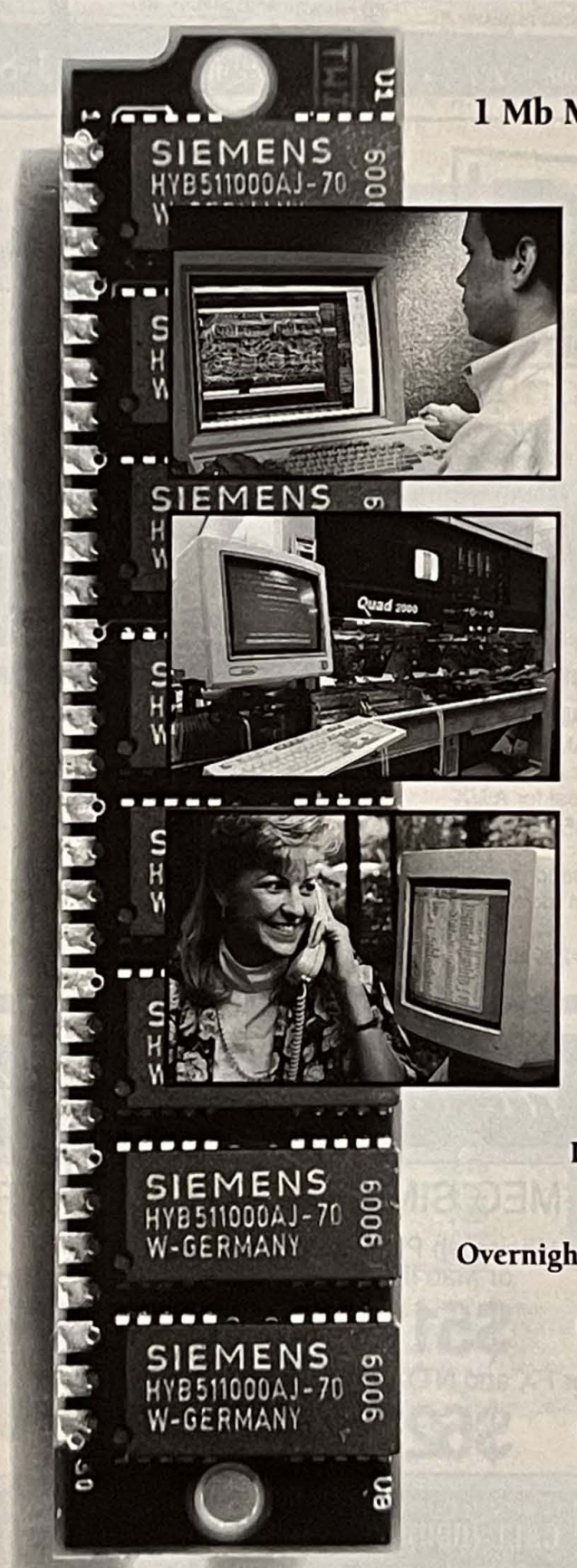

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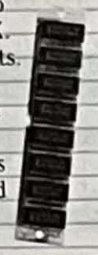

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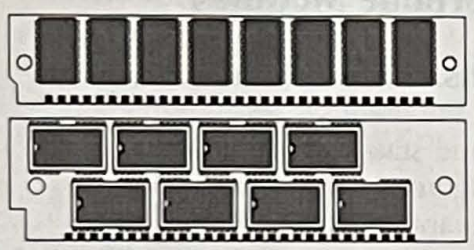

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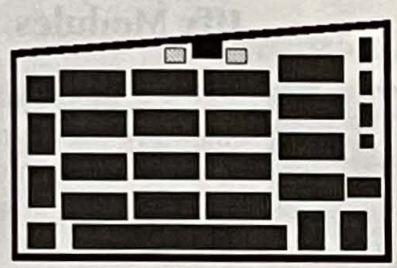

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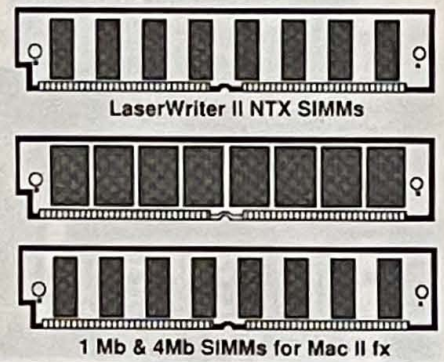

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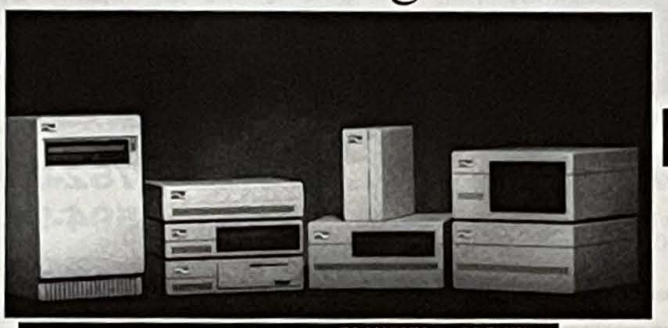

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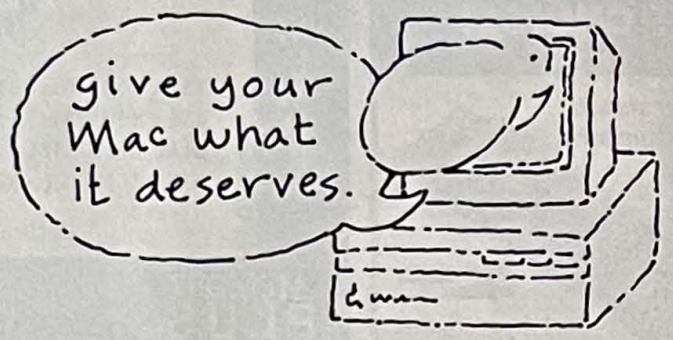

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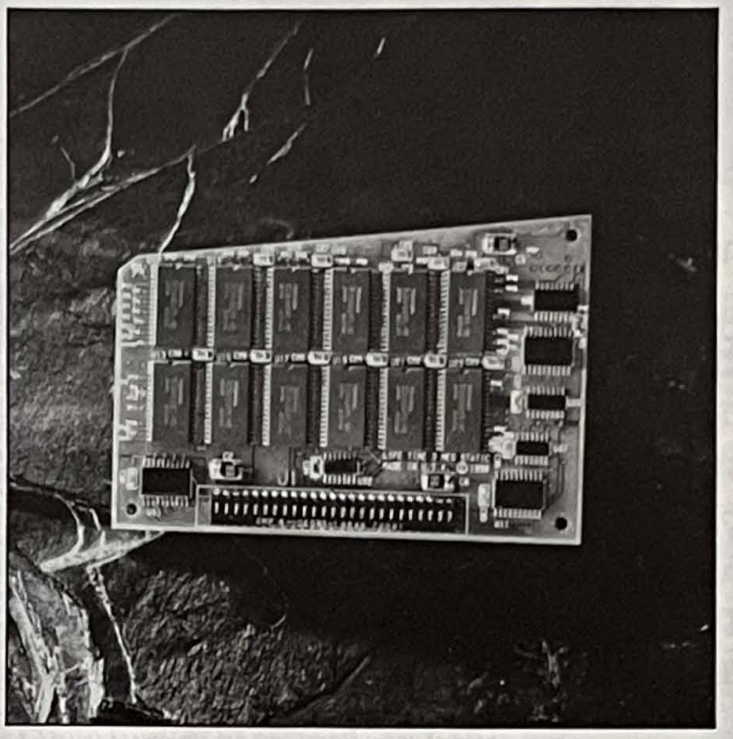

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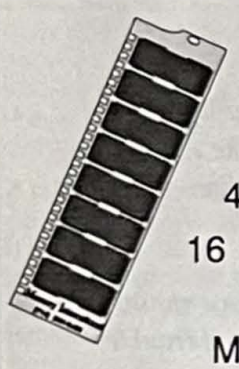

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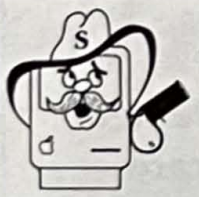

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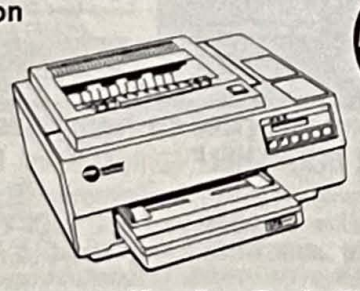

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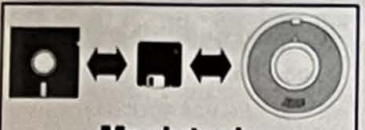

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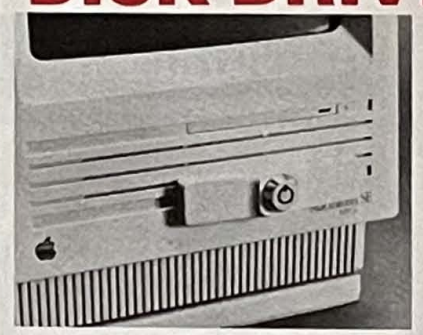

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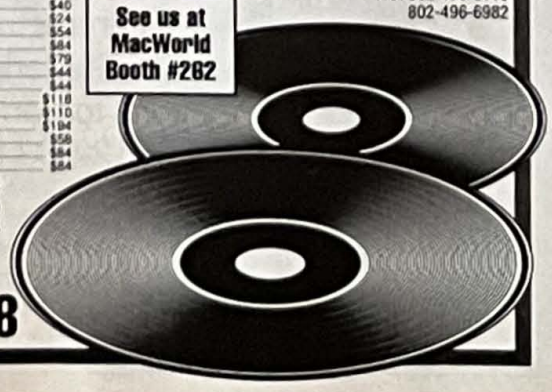

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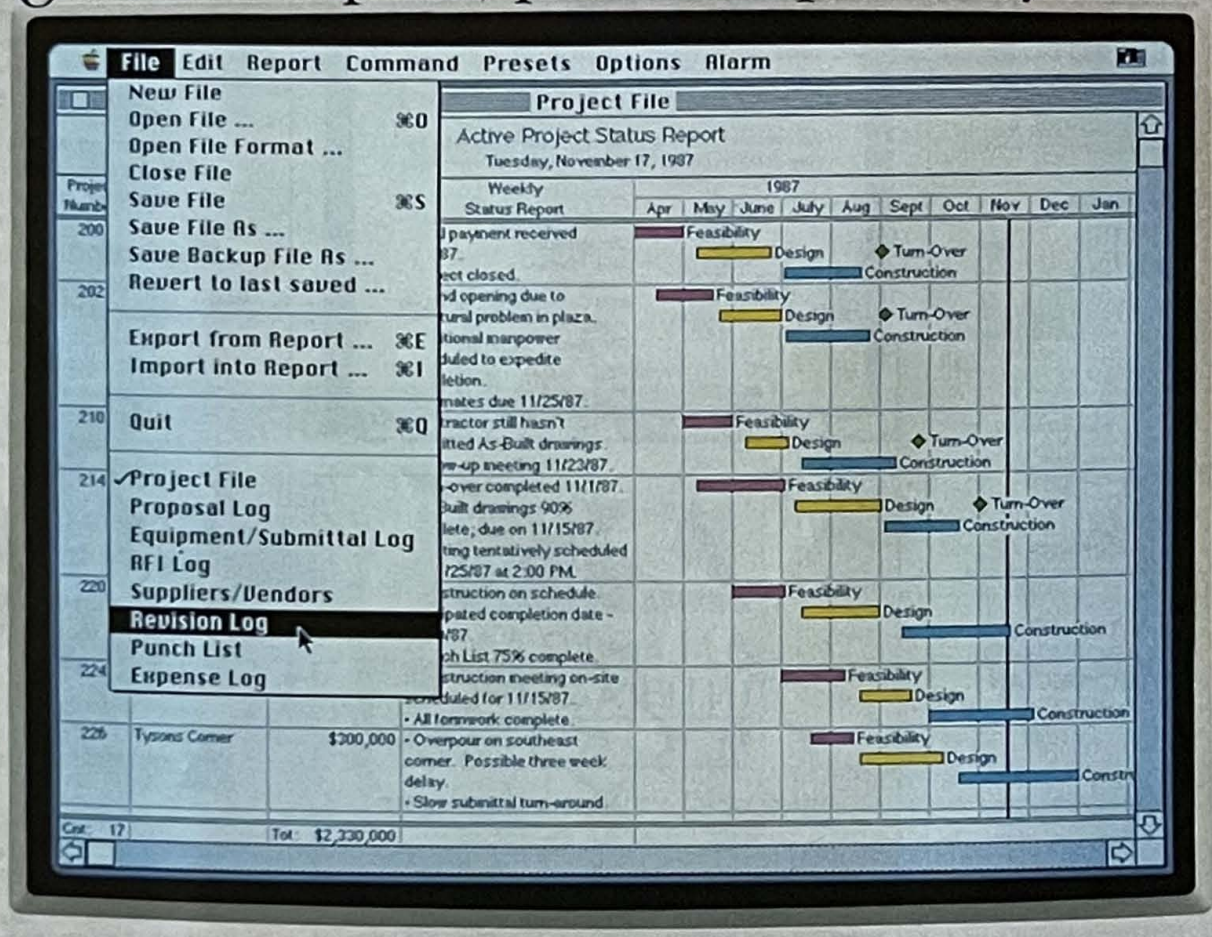

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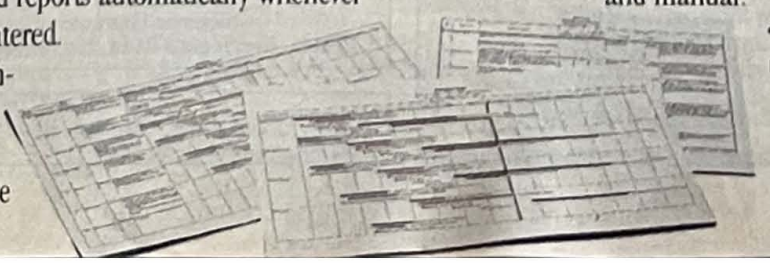

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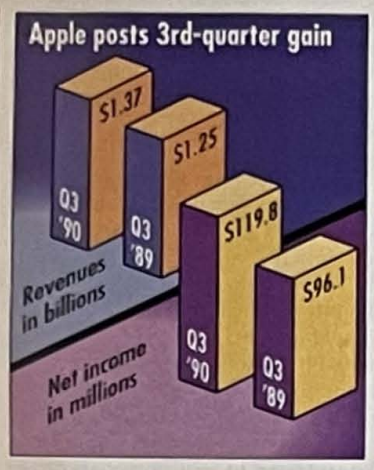


Apple earnings up in Q3, but Q4 looks flat

By Pamela Pfiffner

Cupertino, Calif. — Apple this month reported third-quarter results that were in line with its projections, but its warnings about the fourth-quarter outlook left analysts cautious and some investors jittery.

For the quarter ending June 29, Apple posted revenues of $1.37 billion, up 9 percent from $1.25 billion for the same period last year. Net income rose 25 percent to $119.8 million compared with $96.1 million last year. Earnings were 96 cents per share, up 30 percent from 74 cents for the same period last year.

International sales continued to grow, accounting for 42 percent of sales compared with 39 percent in the third quarter of 1989.

Apple's results were announced after the market closed July 18. Apple's shares dropped $2.875 to $41.75 the following day and hovered in the same range during the following week.

After the results were posted, Apple's board of directors authorized the repurchase of another 5 million shares of Apple common stock.

See Apple earnings, Page 127

dBASE Mac to enter New Era

By Henry Norr

Torrance, Calif. — Ashton-Tate Corp. this month announced that it has sold dBASE Mac, its first entry in the Mac database field, to a new company that includes many of the program's original developers.

Effective immediately, rights to the program have been transferred to New Era Software Group Inc. of Miami. Starting Aug. 15, New Era will provide free support for the program, which has an installed base of 35,000 users in 4,800 corporations and government agencies, according to the company.

Ashton-Tate said it is now focus-

See Ashton-Tate, next page

Apple wizards head for spinoff General Magic

By Daniel Farber

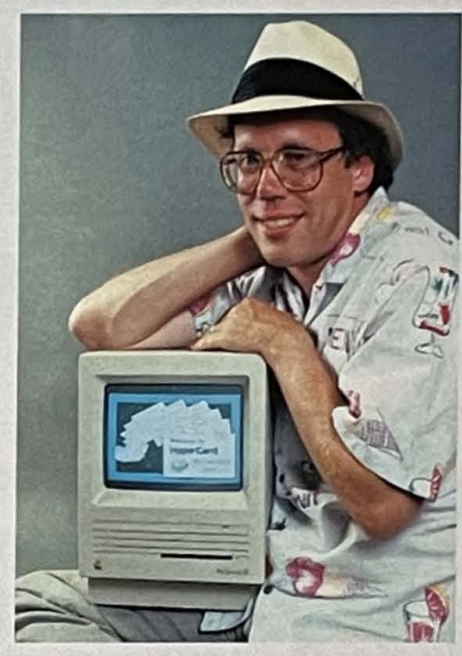
Mountain View, Calif. — The author of MacPaint, HyperCard and the core graphics routines of the Mac is leaving Apple to head up General Magic Inc., an Apple spinoff charged with developing a new class of communications products.

Twelve-year Apple veteran Bill Atkinson will be chairman of the Mountain View, Calif.-based company. Marc Porat, formerly manager of business development for Apple's Advanced Technology Group, will serve as General Magic's president, while Andy Hertzfeld, a key architect of the Mac system software, will become software wizard.

Atkinson said he will continue to advise Apple on technology and user interface issues in his capacity as an Apple Fellow Emeritus. Apple CEO John Sculley, who will be on the company's board of directors, described the project as a "revolutionary new vision of computing and communication."

Sculley said Apple chose to spin out the project "because it doesn't fit in with Apple's mainstream business." In announcing the spinoff, Apple described the project, which was previously code-named Paradigm (see MacWEEK, April 24), as a "new class of Personal Intelligent Communicator" products by the company.

See General Magic, Page 127



Bill Atkinson, now an Apple Fellow Emeritus, will take charge of development at General Magic, a new Apple spinoff working on a consumer communications device.

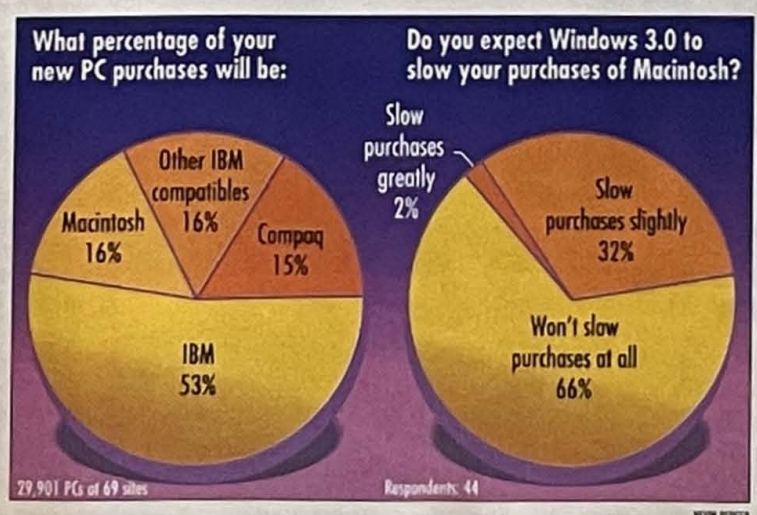
Windows may not slow Mac sales, new survey shows

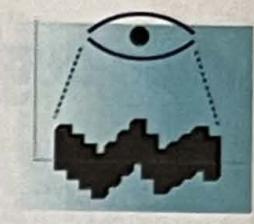
By Henry Norr

San Francisco — By all accounts, Windows 3.0 is selling well, but it is likely to have only a modest effect on the Mac's fortunes in the corporate market, according to a study that was released this month by Robertson, Stephens & Co., an investment firm based here.

In late June, a month after the release of Microsoft Corp.'s new graphical environment for MS-DOS, Robertson, Stephens analysts Peter Rogers and Natalie Billon interviewed microcomputer managers at 83 Fortune 500-class sites about their companies' personal computer hardware and software buying plans through 1991. Nearly three-quarters of the sites were in the industrial category; the rest were divided among other sectors.

See Windows, Page 127


What percentage of your new PC purchases will be:
Other IBM compatibles 16%
Macintosh 16%
Compaq 15%
IBM 53%
29,901 PCs at 69 sites
Do you expect Windows 3.0 to slow your purchases of Macintosh?
Slow purchases greatly 2%
Slow purchases slightly 32%
Won't slow purchases at all 66%
Respondents: 44
KEVIN BERGER



Business BRIEFS

Radius on brink of going public with stock offering

San Jose, Calif. — Macintosh graphics heavyweight Radius Inc. is preparing to go public in August with a stock offering projected to raise about $40 million, according to analysts familiar with the venture.

Radius is expected to net more than $10 million for product development and marketing. The company has experienced booming growth since its founding in 1987, with sales climbing steadily from $9 million that year to an expected $100 million by the end of fiscal year 1990 in September, according to International Data Corp. of Framingham, Mass.

The initial public offering will come on the heels of similar moves by two smaller Radius competitors. Graphics-systems developer RasterOps Corp., based in Santa Clara, Calif., successfully completed its own public stock offering in May, and Sunnyvale, Calif.-based Mass Microsystems Inc. went public late last year.

RasterOps brought in $22.5 million for a company net of about $18 million, while Mass Microsystems collected a total of $9.4 million and netted $7.6 million.

Japanese flat-panel makers face dumping charges

Washington — Frustrated by what it calls unfair trade practices by major Japanese producers of flat-panel displays, a group of U.S. manufacturers this month filed an anti-dumping petition with the U.S. Department of Commerce.

The American Display Manufacturers of America, composed of seven companies that make the displays here, alleges that the Japanese firms are selling the products for more than 71 percent below production cost, drastically eroding the U.S. market share.

Included in the list of Japanese manufacturers is Hosiden Electronics Co., which manufactures the active-matrix display used in Apple's Macintosh Portable. The loss of the Apple contract was reportedly a particularly sore point among the U.S. suppliers.

"It's very straightforward. What the Japanese are doing is illegal," said Curtis Stevens, vice president of finance at ADMA-member Planar Systems Inc., based in Beaverton, Ore. "We've been bidding on most contracts in this country and lost to the Japanese because of their pricing practices."

The other Japanese manufacturers named in the petition are Toshiba Corp., Hitachi Ltd., Matsushita Electric Industrial Co., Hattori Seiko Co., Sharp Corp., Fujitsu Ltd., Kyocera Corp., NEC Corp. and Optrex Corp.

Bitstream to sublicense TrueType for OEM customers

Cambridge, Mass — Bitstream Inc. announced this month that it will sublicense Apple's TrueType rasterizing technology to Bitstream's OEM customers for use in printer and software products.

Bitstream's 370 OEMs will be able to purchase both the TrueType rasterizer and TrueType fonts directly from Bitstream. The company's current type library contains more than 1,000 typefaces for the Mac, of which more than 60 already have been converted to the TrueType format.

"Bitstream wants to get ahead of the competition in the TrueType market since it lost out to Adobe with PostScript," said Charles Bigelow of Bigelow & Holmes, a type design firm in Menlo Park, Calif.

The agreement is a major step for Bitstream. It becomes only the second company to license TrueType, the core font technology in Apple's upcoming System 7.0. Last year Microsoft Corp. agreed to cross-develop a printer language now called TrueImage with Apple in exchange for the TrueType rasterizer.

The agreement also gives Bitstream access to Apple's huge installed base.

Apple begins selling Japanese Mac in Hawaii

By Daniel Farber

Honolulu — Apple this month took the first step on the road toward providing non-English versions of its system software in the United States, announcing that the Japanese version of the Macintosh is now available in Hawaii and eventually will be sold on the U.S. mainland and in Europe and other Pacific Rim countries.

Previously the 50 language versions of the Mac operating system had been restricted to the countries of origin.

"We are the first company in the world to make international language computing available on a global basis," said Satjiv Chahil, director of marketing for Apple Pacific. "Japanese is a logical place to begin because more than 8,000 Japanese corporations have offices in the U.S., and U.S. multinationals that do business in Japan have been requesting the product."

Hawaii was chosen as the first site because of its high concentration of Japanese businesses. About 45 percent of Hawaii's economy is tied to Japan, Chahil said.

Ten companies were beta-test sites for the Japanese Macintosh, which is available from Connecting Point of America Inc., an authorized Apple dealer with stores in Oahu and Maui.

"[The Mac] gives us the advantage of communicating with our Japanese clients in their own language, and the printed output with the LaserWriter NTX-J is very high quality," said Toshi Matsumoto, assistant vice president of the international division at the Bank of Hawaii in Honolulu.

"The software packages work like their English counterparts, but there are currently only two fonts available," said Chris Pearce, president of EastWest Magazine Co. in Honolulu. "We still have to send materials out to a Japanese typesetting house. Apple said that problem won't be solved for at least six months."

Apple worked with Aldus Corp., Claris Corp., Microsoft Corp., Quark Inc. and TransPac Software to provide a suite of Japanese-language software solutions.

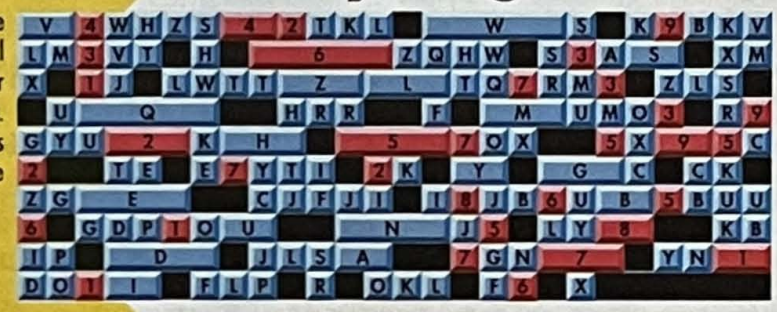
Apple plans to roll out a similar program this fall in Australia, but company officials declined to say when the U.S. mainland would be seeded with the Japanese Macintosh or when the program would be expanded to include other foreign-language versions of the Mac operating system.

"We will be working over the next few months with Apple USA to determine a schedule for release," Chahil said.

A Japanese Macintosh uses standard hardware but requires the $750 KanjiTalk Upgrade Kit, which includes the KanjiTalk operating system Version 6.0.4, HyperCard-J Version 1.2.5, extended kana keyboard and Japanese user manuals. □

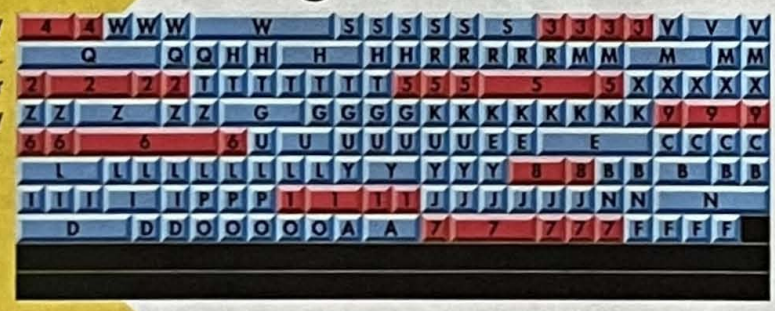
This is your hard disk severely fragmented

This is how a typical fragmented hard disk looks. The abuse fragmentation can deal is a crime, and it's causing a national epidemic in offices everywhere. But the more you use your computer, the more your files are spread all over your hard disk. As a result, your disk has to work a whole lot harder than it has to. And increased head movement not only slows down your file access times, it will slow you down, too.



This is your hard disk defragmented

Even defragmentation software can't help much. Wimpy defraggers just place pieces of individual files adjacent to each other. Defraggers just don't have the intelligence to constantly monitor your file useage. So, any increases in performance are modest and only temporary, disappearing as soon as you use your computer again.



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Ashton-Tate

From previous page

ing its Mac database development efforts on a Mac version of dBASE IV, the current version of the company's flagship product for IBM PCs and compatibles.

In October New Era will give dBASE Mac its first upgrade since its 1987 release. The new version, according to New Era CEO Dean Meyers, will provide several performance improvements and full compatibility with System 7.0 and all Mac configurations. It also may offer access to data files from dBASE IV.

In addition, Meyers said, New Era is developing a completely new version of the program, due out in the fall of 1991 under the name nuBASE, that will offer a distributed database server architecture and multi-user access. Written in C++, it will offer an object-oriented graphical front end and take advantage of System 7.0's Interapplications Communications capabilities. Plug-in extensions will allow it to access data not only from other Mac programs but also from non-Mac file systems.

New Era's plans include porting the product to Windows 3.0, OS/2 Presentation Manager, Unix Motif, NeXT and Sun platforms.

Meyers said he became interested in dBASE Mac after using it, with just four programmers, to develop a completely automated manufacturing system for a 2,800-employee textile plant in Haiti.

Michael D. Rossetti, dBASE Mac's designer, has left a position at Informix Software Inc. to become New Era's chief technical officer and president of its software products division. Several other members of the original design team also have joined New Era.

New Era Software Group Inc. is located at 9100 S. Dadeland Blvd., Datran 1 Building, Miami, Fla. 33156; (305) 670-4844. □

Apple earnings

From Page 125

Apple has repurchased 25 million shares of stock since July 1986. The board also declared a quarterly dividend of 11 cents per share.

In a prepared statement, Apple Chairman and CEO John Sculley said, "Overall, we are pleased with these results." He cited "significant improvements in our gross margins," strong sales of higher-end, modular Macs and the success of recent "pricing actions" in stimulating demand for some compact models.

But Sculley warned investors not to expect too much for the remainder of the fiscal year. "As we have been indicating for some time, in the final quarter of this year we foresee considerable challenges," Sculley said. "We believe it will be difficult to meet the operating results we achieved in the fourth quarter of last year."

Apple posted a net income of $161 million, or $1.24 per share, on revenues of $1.38 billion in its fourth quarter last year.

"We continue to be optimistic about our new product plans, which remain on schedule, but we maintain our cautious outlook in the short term about the level of demand in our U.S. market," Sculley added. Apple is expected to announce at least two new lower-cost Macs in October, after the end of its current fiscal year on Sept. 30.

In a conference call to analysts on July 18, Sculley said that Apple was going through the biggest product transition in the company's history. He also said that widespread publicity about the new October Macs has the potential of slowing down sales.

Following Apple's announcement, Michele Preston, a partner with Cowen & Co. in New York, lowered her estimates for the company's fourth-quarter earnings per share from $1.05 to 69 cents. On June 28, Preston had recommended Apple stock as a buy. She said she continues to recommend it because there is an opportunity for a rebound with the new Macs.

John Dean, an analyst at Salomon Brothers Inc. in San Francisco, agreed. "There may be a pent-up demand for Apple products, and the new Macs will be out in time for the Christmas season and in time for fiscal year-end purchases for a lot of companies."

Still, he cautioned, "There are things in the short term that will improve revenues, but what about long-term solutions? We need to see more of Apple's strategic direction." □

General Magic

From Page 125

Sources said that the product, which is in its formative stages, is a hand-held device for remote wireless communications that will provide access to information from sources such as paging systems, telephone answering machines and electronic services. The company's first product is not likely to be available until late 1991 or 1992.

"It's the most exciting thing I've ever worked on," Hertzfeld said.

"General Magic has the experience and talent to create an innovative product that addresses a real market need," said Ash Jain, publisher of the Macintosh Market Report in Irvine, Calif. "But it will probably be a few years before the fruits of its labor makes it into users' hands."

Other industry veterans who are part of General Magic's team include former Apple employees Susan Kare, who designed many of the graphical elements of the Mac interface, and engineers Wendall Sanders and Walt Broedner.

Apple has a minority investment and the first non-exclusive license to manufacture and market products from General Magic. □

Windows

From Page 125

The sites covered in the survey had an average of 3,620 personal computers, of which 15 percent were Macs.

According to the report, 71 percent of the managers already had evaluated Windows 3.0 or were in the process of doing so, and of those respondents, all said they plan to deploy the software on at least some of their MS-DOS machines.

Of the 44 managers whose sites had Macs and who were willing to make predictions about the Microsoft software's effect on their Mac buying plans, two-thirds said Windows "won't slow [Mac] purchases at all," and another 32 percent said it will slow Mac buying only "slightly."

Overall, the managers said purchases during the second half of this year would not differ much in profile from their installed bases: 16 percent of the personal computers they will buy during the remainder of 1990 will be Macintoshes. But respondents at sites where the Macintosh already represents 20 percent or more of the installed base said they expect Macintosh purchases to accelerate.

Most of those surveyed declined to compare the Mac and Windows, but of the 36 who did, half said the two environments were comparable, 39 percent characterized Windows 3.0 as "slightly inferior," and 8 percent called it "far inferior."

Only one respondent rated Windows above the Mac — and only "slightly." □

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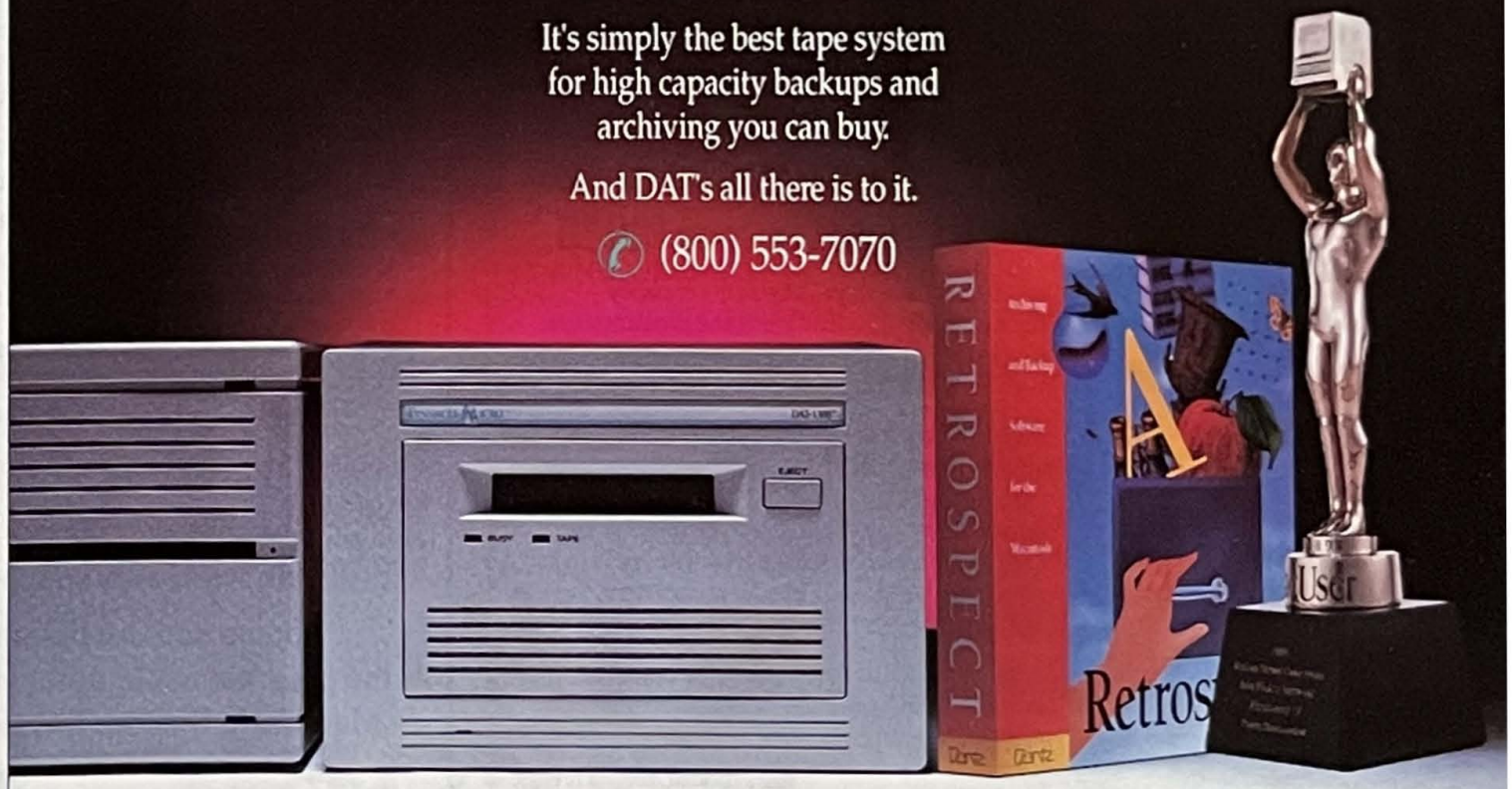

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MarketWEEK

STOCKWATCH

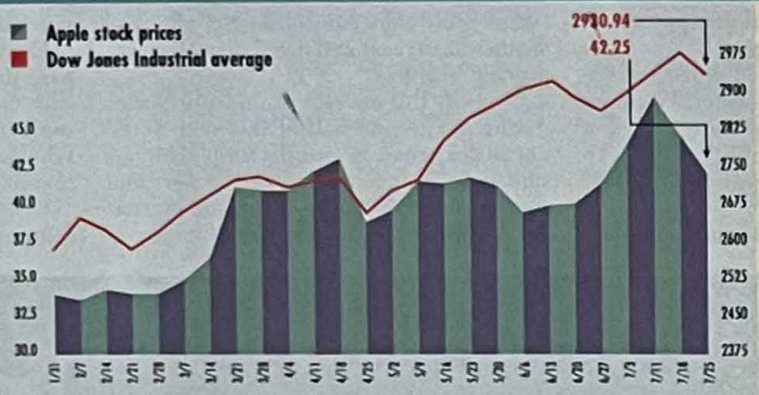
Summer rally cools, with Seagate, DEC taking big hit

The summer rally cooled off last week, partly because of the lower returns from high-tech companies.

In five days Seagate Technology Inc. lost more than 12 percent of its market value after posting fourth-quarter earnings of 46 cents per share. The results, while flat compared with last year's results, were below analysts' expectations of 51 cents to 54 cents a share.

Digital Equipment Corp. also suffered last week, toppling more than 10 percent to $74.88. The company had posted a fourth-quarter loss after taking a $2.79-a-share restructuring charge against earnings. The net result for the quarter was a loss of $2.11 a share, compared with $2.51 profit for the same period last year.

Apple also fell last week, dropping more than 5 percent to $42.25 after indicating that fourth-quarter earnings could be lower because of product transitions.



Mac-related stocks

	CLOSING 7/18/90	CLOSING 7/25/90	PERCENT CHANGE	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
MAC-RELATED COMPANIES						
Adobe Systems Inc.	37.75	36.75	-2.65	21	50.75	14.00
Aldus Corp.	28.13	26.75	-4.89	23	29.25	12.25
Apple	**44.63**	**42.25**	**-5.32**	**10**	**50.38**	**31.88**
Ashton-Tate Corp.	10.38	10.50	1.20	-8	15.25	8.13
Businessland Inc.	7.63	7.25	-4.92	29	13.63	6.50
Microsoft Corp.	76.00	71.50	-5.92	34	80.75	26.88
Motorola Inc.	85.88	79.75	-7.13	20	88.38	52.75
Seagate Technology Inc.	14.25	12.50	-12.28	7	19.75	10.50
3Com Corp.	17.13	16.38	-4.38	23	19.25	10.00
INDUSTRY INDICATORS						
Digital Equipment Corp.	83.50	74.88	-10.33	15	103.38	69.50
IBM Corp.	119.88	114.75	-4.28	17	123.13	93.38
Sun Microsystems Inc.	34.75	33.50	-3.60	74	37.25	13.38

Compiled by Novelby International Inc., Boulder, Colo.

MARKETWATCH

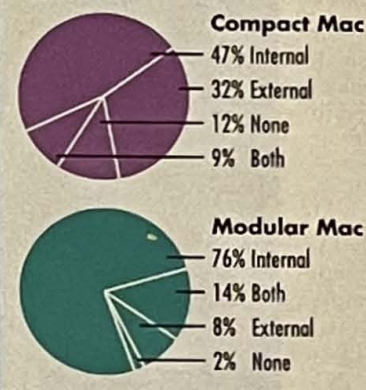
Apple survey finds modular-Mac owners ready for System 7.0

A recent Apple survey of nearly 2,000 Macintosh users in five countries revealed that more than one-third of compact Macintoshes and almost 80 percent of modular Macintoshes already are equipped with the 2 Mbytes of memory needed to run System 7.0.

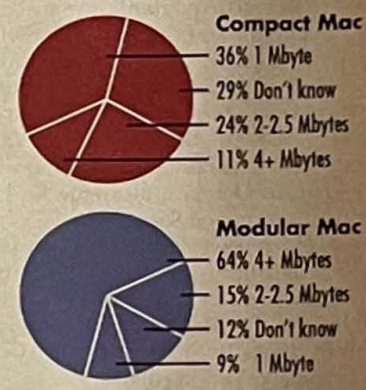
In addition, most of the Mac users surveyed said they have a hard disk drive, which is also a requirement of System 7.0. Hard disk usage totaled 90 percent.

Nine percent of the compact Macintosh users reported having both internal and external drives, while 14 percent of modular Macintosh users said they have both drives. — *By Nathalie Welch*

Types of hard drives used



Amount of RAM used



Source: Apple Direct/July 1990

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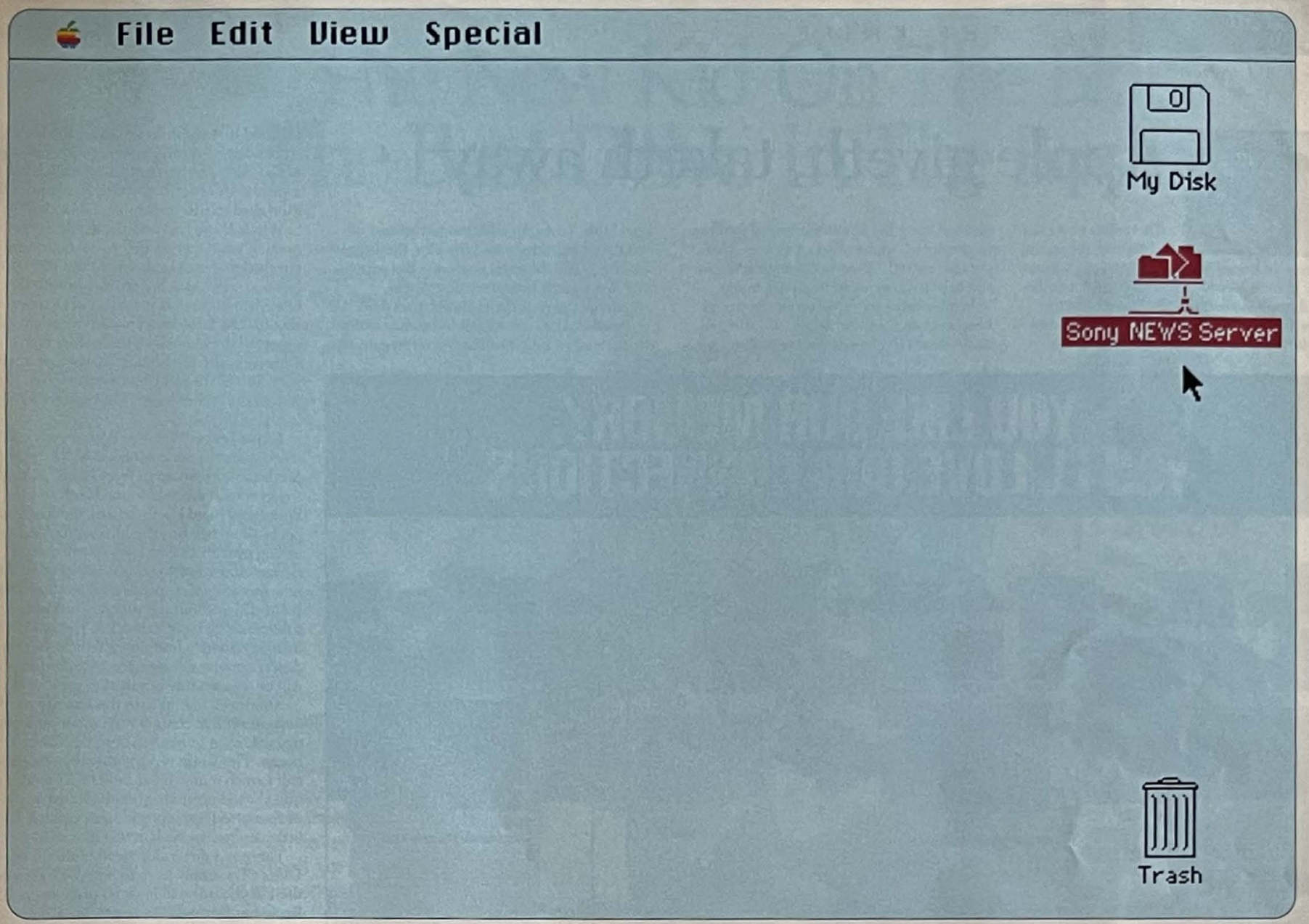

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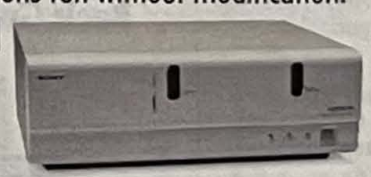

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Apple giveth, taketh away

There may be a grain of truth in the recent barrage of stories about the anemic U.S. economy, at least according to some smaller authorized Apple dealers who felt compelled to share their problems with Mac the Knife last week. These sources claim that Apple has decided to up the minimum annual purchase requirement, apparently in a move to clean out the "riffraff," lower-volume dealers who still have to be serviced by an Apple rep.

While such a move theoretically would keep a lid on costs for Apple, the affected dealers are complaining bitterly about unrecoverable losses. In addition to the cost of sales training classes and the like, the biggest loss for many shunned dealers is the expensive spare-parts inventory that Apple requires as part of the authorization deal. All doomed dealers are scheduled to be notified by the end of July. The Knife's informant also claimed that Apple is lessening the blow somewhat by offering a temporary extension of the authorization until September, but on a cash-with-order basis only. No wonder the axed dealers are screaming, "Raw deal!"

When Apple isn't revising the dealer program, it ponders how best to configure and roll out the low-cost Macs. Should the '020-based, low-cost color Mac be introduced with the other two lower-cost machines in October, or should it be introduced in January, when it is expected to be much closer to shipping? Observers also are betting on whether it will have four-bit or eight-bit on-board color video. It's not the technology; it's the marketing.

Expo fever. With the Boston expo only a week away, the anticipation level has begun its predictable creep up to fever levels. Mac speed freaks should proceed immediately to the Peripheral Land booth, where, the Knife suspects, there will be a fair share of oohing and aahing over PLI's new high-speed storage device. According to the Knife's sources, the new unit will offer speeds rivaling those of a RAM disk without the volatility headaches that sometimes go hand in hand. While not cheap compared with a traditional Winchester hard disk of comparable size, the cost per megabyte will be significantly less than the cost of RAM.

Attendees fed up with the limitations of current optical character recognition technology will want to head over to the Caere Corp. booth. The Knife reports that the company will launch a new hand-held OCR reader that quickly and accurately reads almost any kind of formatted text. As one source put it, the little device can suck in text like a Hoover.

There is a down side to all of this, however. Users who simply have to have 24 Fkeys on their keyboards will have no place to go. The Knife has learned that Northgate Computer Systems recently got cold feet about the Mac market and has withdrawn the new OmniMac Ultra, the 4-pound, you-just-can't-have-too-many-keys keyboard. Users who just want to rearrange things, however, will be pleased to know that DataDesk International has finally started delivering the modular keyboard first shown in San Francisco last April.

Georgia bound. After long negotiations and several false starts, Norcross, Ga.-based Peachtree Software and Boston-based Layered Software have finally signed a letter of intent to merge Layered into Peachtree. The Knife's sources predict a formal announcement of the merger of the two accounting-software developers in a couple of weeks, while Layered employees will get the news this week. Most Layered jobs are secure, although over the course of the coming year all operations will be moved to Norcross. Should be a smooth transfer, since Georgia and Massachusetts are nearly identical except for culture and climate.

Tired of waiting for the Mac to render 3-D graphics? Tired of waiting for Silicon Graphics to introduce Personal Iris technology on the Mac? The end is in sight, though not near. The Knife claims that current plans call for announcing an IBM PC-and-compatible product first at the November Comdex show, followed by a Mac version as early as next spring. On the Mac, Personal Iris will probably first appear as two cards and incorporate MIPS chips and the Silicon Graphics libraries. □

Would Neil Bush be in hot water if he'd spent the last couple of years trading tips with Mac the Knife instead of whatever it was he was or was not doing? We may never know. The MacWEEK mug, however, is essentially risk-free. Call the Knife at (415) 243-3500 or MCI (MactheKnife).

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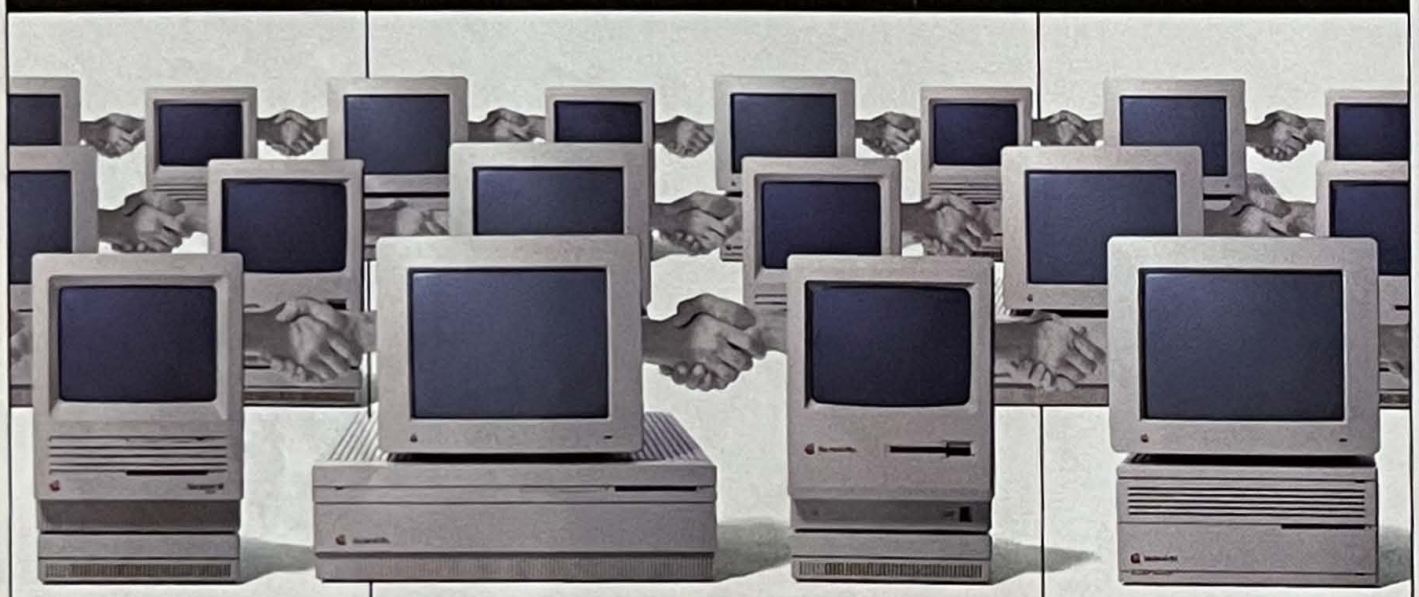

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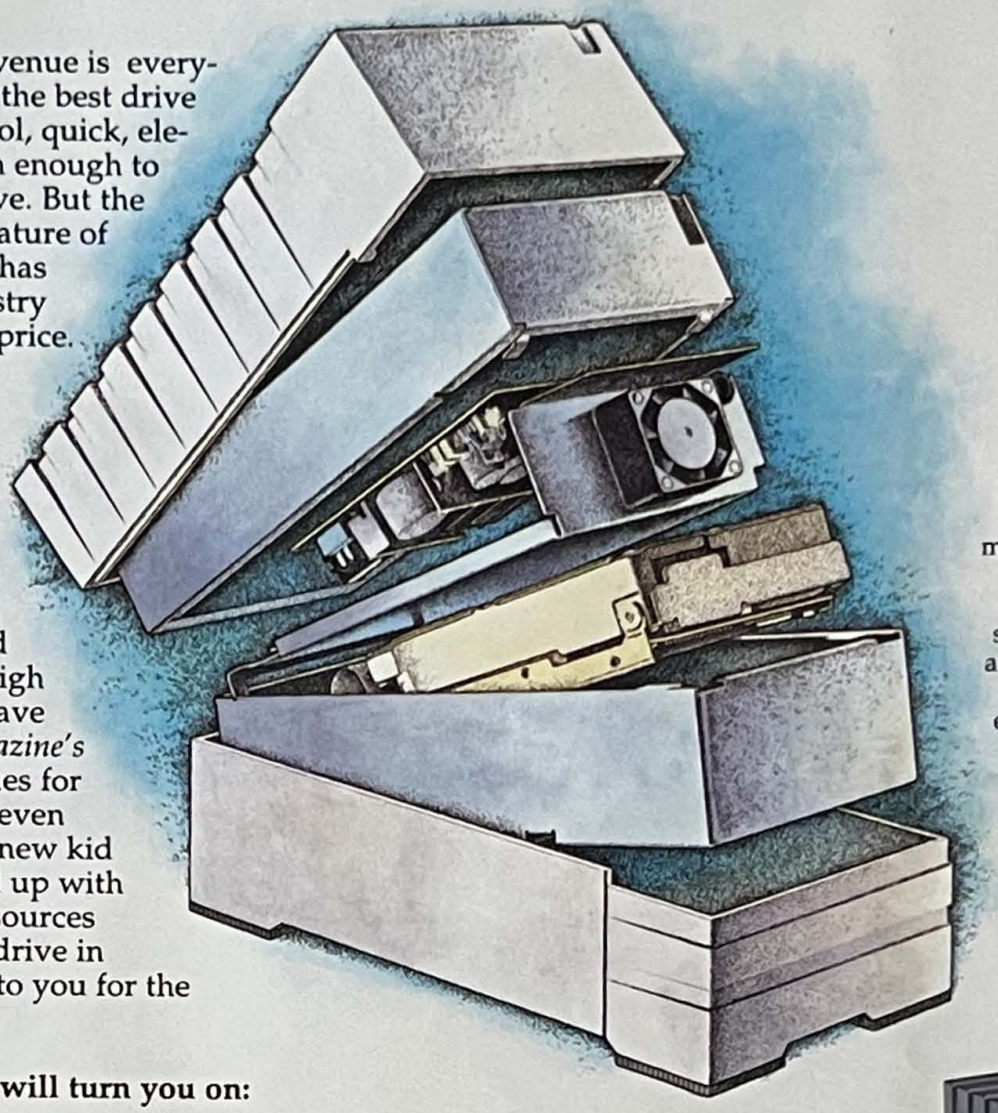
DESIGN INNOVATION • MANUFACTURING QUALITY • MARKET LEADERSHIP

How The New Kid On The Block Made The Best Drive In The Business

The Protegé from MacAvenue is everything you'd expect from the best drive in the business: quiet, cool, quick, elegantly engineered, tough enough to travel, and priced to move. But the single most important feature of this handsome little box has more to do with its ancestry than with its aggressive price.

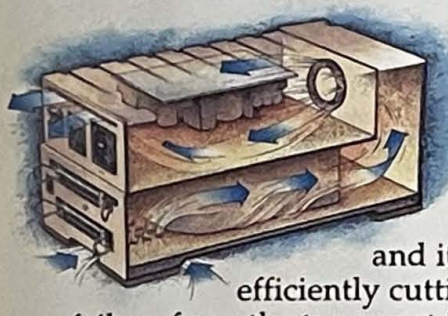


The Protegé hard drive features an outstanding pedigree. That's because the parent company of MacAvenue is CompuAdd, a computer industry leader in value, performance, service and support. CompuAdd's high quality and low prices have made it one of *INC. Magazine's* fastest-growing companies for three years running. So even though MacAvenue is a new kid on the block, we showed up with the smarts — and the resources — to build you the best drive in the business. And sell it to you for the best price on the market.

Exclusive!

You'll Never Lose A File
Your MacAvenue Protegé is the only drive on the market to come bundled with On Location, the amazing file-finding utility that will search your entire hard disk and find a lost file in seconds. Just type in a file name or even a few words within the file. On Location does the rest. This utility was created by Mitch Kapor, developer of Lotus 1-2-3.
A $129.95 value.

Here's how the Protegé will turn you on:

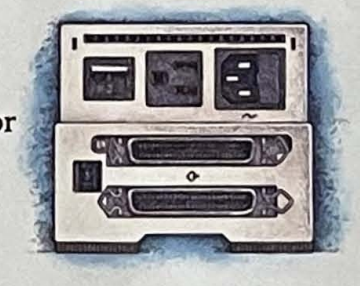


It's Really Cool

A drive that keeps its cool also keeps its reliability. The Protegé is a really cool machine because it maximizes air flow across its drive assembly and its isolated power supply — efficiently cutting the danger of heat-related failure from the two most important parts of your drive.

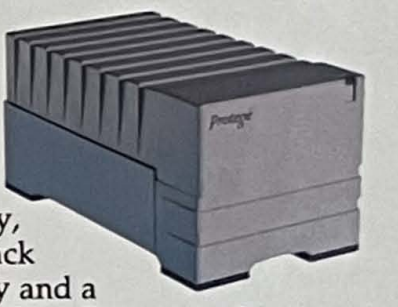
Attention to Details

Even the back of the Protegé is loaded with smart features. Like an extra power outlet for other drives or peripherals. A push-button SCSI ID setting. And an external terminator for convenience.



Loaded with Smart Software

Your Protegé will arrive pre-formatted and ready for work, loaded with easy-to-use, custom-designed utilities. The Protegé's Disk Management Software allows you to partition for more efficient drive operation and password protect each partition. The software even allows for disk spanning and creation of ProDOS and UNIX partitions.



Drive Your Bargain

Like all MacAvenue products, the Protegé is backed by superior documentation, a 30-day, no-questions-asked, money-back guarantee, a one-year warranty and a toll-free technical support line. So call now. And drive a bargain on the best drive in the business.

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40+MB	$395	$455	$325	$375
80+MB	$525	$645	$465	$595
100+MB	$649	$695	$575	$645

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